Scholastic TEACHER

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★ EDUCATION NEWS OF THE WEEK ★

California Tops

California has overtaken New York as the top-paying state for teaching salaries, NEA Research Division reports. The Golden State this year shells out an average $5,750 annual salary to classroom teachers, while the Empire State trails close behind with $5,687. Last year, New York was number one over California ($5,500 to $5,150).

This year, seven states are paying $5,000 a year or better, compared to only two last year.

At the bottom of the totem pole, Mississippi has replaced Arkansas as the lowest-paying state. Mississippi's $2,525 average annual salary makes it the only state in the Union paying under $3,100. Arkansas, which last year paid $2,380, this year jumped up to $3,180. (See chart on page 2-T.)

Space Age Schools

School systems throughout the country are taking steps to meet the challenge of the space age. School programs are being reorganized, academic standards tightened.

At Glastonbury (Conn.) H.S., new curriculum changes will go into effect next September:

▶Three periods each week will be devoted to helping students develop effective study habits and skills.

▶A course in "Current Issues" will be required of all 12th-year students. The course, which will replace "Problems of Democracy," will seek to give young people a better understanding of chief issues facing Americans.

▶Geography has been made a one-semester course, stressing geopolitical (rather than economic) aspects.

▶A new course, "International Relations" will be offered as an elective.

▶Vocational agriculture and homemaking will no longer be accepted as part of the graduation requirements on science. Bookkeeping will no longer be credited toward math requirements.

Improvements are also underway in De Kalb County, Ga., which includes part of the Atlanta school system. Unit requirements for high school graduation have been upped from 16 to 18. There will be more work in science, math and social studies. Special programs will be instituted for superior students, including college-level courses in the 12th grade.

A special committee appointed by the New York State Education Dept. has urged radical steps in the state schools to gear programs to the space age. The committee recommends major improvement in all areas of education, with particular attention to science and math. It also proposes extending the minimum school year from 180 days to 190.

In Los Angeles, Superintendent Ellis A. Jarvis has ordered a thorough restudy of graduation requirements and curriculum used in the city's junior and senior high schools. A recent study of the elementary schools has led to a new course of study for 1958-59.

CAREERS ISSUE

This week, *Senior Scholastic*, *World Week*, *Practical English*, and *Junior Scholastic* feature special sections on "Your Career."

To supplement this material in the student editions, *Scholastic Teacher* devotes a major portion of its editorial space to guidance materials. See "New Materials" on page 12-T, article "Operation Guidance" on page 5-T, and "Don't Miss" column on page 4-T.

Poinier in The Detroit News

"Trouble with our schools is fancy frills."

Crackdown

Special schools—more reformatories—a discipline crackdown—and a broad hint that the compulsory school age will be lowered.

These were the major recommendations of a special committee of the New York Board of Education in meeting the problem of crime in the schools. The committee—which pointed out that schools were being disrupted by "less than one per cent of the school population"—consisted of the Mayor's executive secretary, the incoming and outgoing school superintendents, and two members of the Board of Education.

Major recommendations:

1. Six new "600" schools to be constructed for disturbed pupils. (Right now, the city has 16 "600" schools—so-called because of the numerical designation: P.S. 601, 602, etc. Of these, five are operated on a normal 9 a.m. to 3 p.m. schedule. The other 11 are connected with hospitals, correctional institutions, and welfare agencies. In these schools, there is a low student-teacher ratio and a specialized curriculum. Teachers are paid extra.)

2. Provision for more reformatories. (Present ones are overcrowded. Many hard-core delinquents have been sent back to school on probation because there is no room for them in correctional institutions. Until the reformatory space is available, the board will give "immediate consideration to the problems of offenders currently in school. If necessary, changes will be made in existing laws." Apparently this refers to lowering the compulsory school age.)

3. Announcement that the board will "continue" to support teachers in administering "reasonable" discipline.

4. Expansion of guidance staffs.

As this issue of *Scholastic Teacher* went to press, the board took the first step in its "get tough" policy. It announced that pupils "charged with a violation of law involving violence or insubordination" would be suspended at once. Such pupils would be barred from school until found innocent in a court of law.

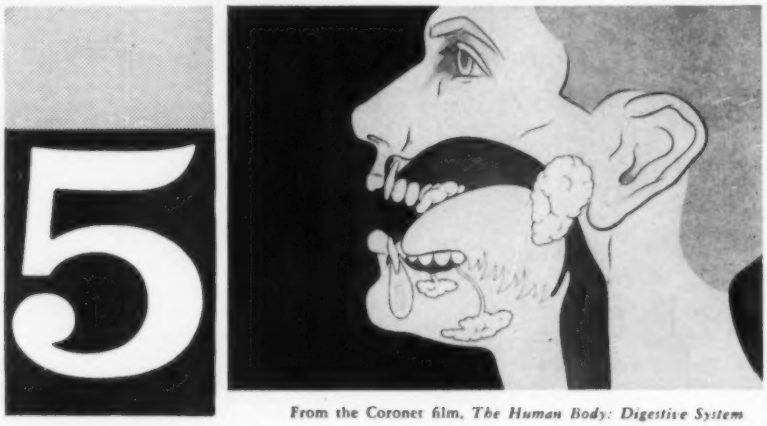
The board said that its duty was to "protect the innocent from the violent," and henceforth it would be up to "other public agencies" to provide custody for pupils having violent tendencies.

In Brief

Canada is holding its own "White House Conference on Education" this week in Ottawa. More than 700 educators and laymen are attending to discuss school finance, science education, the gif ed, and guidance for potential dropouts.

It looks as if the Supreme Court will have the final word on the now-famous Lewis and Clark papers case. Four years ago, a pile of old papers was found in a Minneapolis attic. The pile turned out to be 67 pages of notes by Captain **William Clark**, covering the Lewis-Clark expedition. The notes were turned over to the Minnesota Historical Society. But the U.S. Government laid claim to them, on the ground that Clark was an army officer at the time. Last month the Circuit Court of Appeals, St. Louis, ruled that the documents be turned over to the Historical Society. U.S. District Attorney **George MacKinnon** is considering an appeal.

Officials at Alhambra (Calif.) H.S. are furious at the treatment the school received at the hands of CBS. The TV program "Where We Stand" interviewed



From the Coronet film, *The Human Body: Digestive System*

new Coronet Films For High Schools

High school instructors will find these new films for science and the social studies to be unusually effective in classroom teaching. Each of these 16mm sound motion pictures has been planned to meet teaching needs. Each is correlated with textbooks in general use and with specific study units.

The Human Body: Digestive System makes generous use of animation, x-ray, cinefluorography, and closeups of major organs in live action to show the actual functioning of the digestive system. *(13½ min.,* Junior High, Senior High.)

How Green Plants Make and Use Food describes the factors required by green plants for life and growth, and the process of photosynthesis by which food is made. *(11 min.,* Junior High, Senior High.)

United States Expansion: The Northwest Territory re-creates the events leading to the opening of the Northwest Territory, a description of the area embraced by the Territory, and an accurate account of its settlement prior to statehood. *(13½ min.,* Junior High, Senior High.)

Yugoslavia surveys the geography of the country — with emphasis on city life in Belgrade, farming conditions, and new economic developments. *(11 min.,* Junior High, Senior High.)

Yugoslav Village shows life in Central Bosnia —at home, in the fields, going to school, the religious life, and an exciting market day in Sarajevo. *(8 min.,* Junior High.)

Preview these films . . . Simply use the coupon to request preview prints of these films without charge for purchase consideration; or, if interested in rental, send for a catalogue listing libraries from which Coronet films may be rented.

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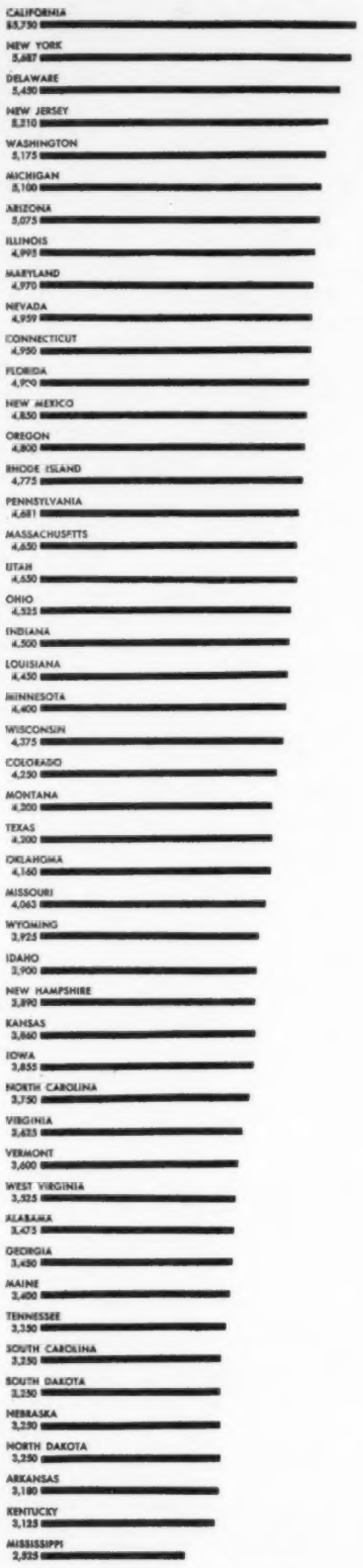
CLASSROOM TEACHERS
1957-58 Average Salaries



Source: NEA Research Division estimates

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Scholastic TEACHER

The Weekly News Review of Education & Teaching Guide for Scholastic Magazines

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SCHOLASTIC TEACHER is published in six editions weekly as the Teacher Edition of Senior Scholastic, World Week, Practical English, Junior Scholastic, NewsTime, and Explorer.

some boys taking "Co-ed Cooking," and tore Alhambra High's reputation to shreds before the country. (Only 30 of the school's 1,030 boys take this particular course.)

▶General Assembly has overriden Maryland Gov. Theodore McKeldin's veto of a three-cent cigarette tax. Money will pay for a $400 salary hike for teachers.

Don't Miss . . .

Books About Occupations: A Reading List for High School Students, by Margaret Anderson, Oakie Geràkis, and Oscar Haugh. Originally a publication of the Univ. of Kansas School of Education, this 48-page bibliography is now being distributed by the National Council of Teachers of English. Write NCTE, 704 South Sixth Street, Champaign, Ill. (40 cents).

Going to College?, 42-page, down-to-earth, folksy guidance booklet published for students by Abraham Lincoln H.S., Brooklyn, N.Y. Preparing for college, paying for it, how to apply, College Boards, interviews. One of finest booklets of its kind. Single copies free as long as supply lasts. Write Principal Abraham Lass, Lincoln H.S., Ocean Parkway and West Ave., Brooklyn 35, N.Y.

Orientation for College, by Guy P. Wicks, 38-page mimeographed booklet put out by the Univ. of Idaho for high school seniors. Outlines differences between high school and college, discusses reading skills, study habits, how to take notes, how to prepare for exams, applying for admission, using the college catalog. Free in single copies as long as supply lasts. Write Guy P. Wicks, Univ. of Idaho, Moscow, Idaho.

Never Went to College? So What!, in "Changing Times," November, 1957. Most of your students will NOT go to college—for one reason or another. They probably won't develop an inferiority complex if they get a chance to read this.

How to Live with Success, a series of articles in the February "Cosmopolitan." Landing the right job, choosing the right education, skills that pay best, earning extra income.

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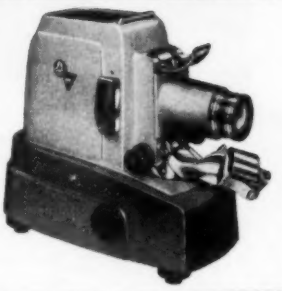

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OPERATION GUIDANCE

Rochester, N. Y., pupils prepare for careers in an unusual new guidance project

By CARL LANG

WHAT QUALITIES do you admire most in a person?

What is success? How is it measured?

What do employers look for in employees?

Why go to college?

Can work be enjoyable?

What are good study habits?

These were some of the questions that Mrs. Jane Schuster wrote on the blackboard for her General Education classes at Monroe High School, Rochester, N.Y., on Monday, March 18, 1957. This was the start of an Educational Testing Service pilot guidance project under the direction of Benjamin Shimberg, Director, ETS Guidance Inquiry. The stage was set. Interest was keen. Attention was rapt.

Mrs. Schuster, like tryout teachers in Newton, Mass.; Lebanon, Pa.; Panama City, Fla.; Hartford, Conn.; Norwalk, Conn.; and Princeton, N. J., had no previous experience as a guidance counselor. In fact, each teacher was trying his hand at group guidance for the first time.

The general purpose of the project was to help 8th and 9th grade pupils make better-informed decisions about their future educational and vocational plans. Each of the classes used an ETS experimental booklet, *You: Today and Tomorrow*, which was developed by Martin Katz for Educational Testing Service. The guidance approach used in the booklet proved to be provocative, stimulating, and sound.

ETS recommended that each of the tryout teachers translate the project in terms of the needs of each individual class. We at Monroe H.S. did just that. Miss Mary A. Sheehan, the principal, visited both of Mrs. Schuster's 8th grade General Education classes and briefly explained the importance and the overall purpose of the six-week project. The youngsters in both the academic class and the non-academic class welcomed the idea.

Both groups started the experiment with great expectations. They were going to have the opportunity to size themselves up, and to acquire a better understanding of the needs and demands of the business world. Before the end of the first two days' sessions, the pupils had drawn up a surprisingly good tally of the traits which they thought contributed most to a person's success. They had also listed the qualities which they most admire in a person.

They mounted a gallery of their own baby pictures to represent their past; set up a mirror to reflect their present; and constructed a large question mark to symbolize their future.

A week after the project was under way, Miss Sheehan invited parents to a meeting at which she explained in some detail the reasons for and the goals of this special guidance project. Reactions at that time were mixed.

Interviews and Speakers

To guide her classes through her carefully planned program that touched upon such topics as, "How to Ask the Right Questions," "You," "Your Opportunities," and "Making Choices," Mrs. Schuster drew upon a rich array of materials and school and community resources. Interest seldom seemed to lag. It was sustained by her ingenious teaching methods.

There were the times when her clever line drawings helped interpret test data, charts, and diagrams. There were tape-recorded interviews which students made with community business and professional people. There were lively panel discussions replete with student moderator and recorder that analyzed the lives of great Americans. There were plenary class discussions on issues raised by the text and by two local TV programs which were concerned with planning one's future.

There were such guest speakers as the drafting teacher, the school nurse, the 10th grade guidance counselor, a representative from New York State employment office, and the personnel director of the Roll Coating Division at nearby Eastman Kodak Company.

There were the visits to Monroe's Graphic Arts Laboratory, to local industries, and the Academy of Medicine. And inasmuch as our General Education classes are 110-minute periods, Mrs. Schuster had ample time to schedule a series of films which included *Aptitudes and Occupation, Finding Your Life Work, Finding Your Real Interests, How to Think,* and *How to Study.*

To supplement the ETS booklet, *You: Today and Tomorrow,* Mrs. Schuster found the following material exceptionally appropriate: *Scholastic Magazines'* special issue on "Careers"; Eastman Kodak Company pamphlet, *What Industry Looks for in the High School Graduate;* National Association of Manufacturers' pamphlets on vocations and educational planning; New York Life Insurance Company's pamphlets on careers and the cost of going to college.

Scrapbooks Prepared

At the end of this guidance unit, each pupil turned in a scrapbook which he had prepared on the career or job that most appealed to him. The scrapbooks contained a brief account of the nature of the work, training involved, and opportunities offered.

At this time, pupils were given an opportunity to express their reactions to the project. The general consensus seemed to be that these six weeks had been wisely spent because the project made them think more clearly and more purposefully about their future plans.

Parents, too, had their opportunity to appraise the project. Most of them who had expressed sharp doubts about it at the first meeting now came forth with warm praise. They were impressed with the project as an educational experience in terms of learning more about vocations and in terms of helping the pupils see the relevance of their present studies to their future goals.

Parents were impressed with the fact that their children had become far more articulate about the field of "work" in general and about their "studies" in particular. The wistful comment of one parent seems to sum up the general reaction to this experiment: "To have had such a course as this when we were in school!"

If you would like your class to take part in this experimental program, write to Mr. Benjamin Shimberg, Director, ETS Guidance Inquiry, 20 Nassau Street, Princeton, N.J.•

Better Homes & Gardens

"Boys and girls, this is Mr. Smythe of the Universal Aircraft and Missile Corporation. He wants to tell you all about the advantages which his company has to offer to the graduating engineer."

Carl Lang is head of the social studies department, Monroe H. S., Rochester. He is a former Advisory Board member of Senior Scholastic.

A Guide for a Lesson Plan for

Opportunities in the Age of Space

Aims

To emphasize the importance of well-rounded as well as technical education in the new Age of Space; to motivate young people to make a critical survey of the opportunities for continuing education, on-the-job training, self-improvement, and for careers in today's United States Air Force and in industry; to emphasize that the Armed Forces, and in particular the Air Force, requires many highly trained and specialized servicemen and women to perform increasingly challenging duties.

Note to Teachers

A special 16-page insert on the Air Force is to be found in this issue of *Senior Scholastic*, *Practical English*, and *World Week*. However, many junior high school readers would also profit by studying it. Why? Because students must decide on their high school courses of study when they reach the ninth grade and such courses as science, math, and mechanics are important background for many Air Force careers.

Procedure

Read and discuss this special career insert. If you like, assign interested students to report on each of the career jobs described. For discussion, use the "Guide Questions" below. The section called "Graduate First" is an excellent springboard for a class discussion on the importance of getting an education that is adequate for career and life needs. Ask students to interview high school "dropouts" on this subject.

Guide Questions

The New Age of Space: Why are scientists planning to build space stations in outer space? How will it be possible for a family to take a 500-year trip?

Opportunities Unlimited: What type of "ground" jobs do most airmen have? Where do many receive their training?

A Flying Start: Why are Air Force trained technicians considered "picked men"? Name some job skills especially needed by the Air Force and the aviation industry. What opportunities are there for women in the Air Force?

Radio and Radar Systems: What school courses are helpful for careers in this field?

Statistical Analysis and Machine Accounting: What skills are helpful in this field? School courses?

Armament Systems Maintenance: What special knowledge is needed for jobs in this field? What school subjects?

Supply: What skills are helpful in this field? What school courses?

Atomic Weapons: Why does this field offer great promise for careers? What jobs in this field are there?

Intelligence: What skills and abilities does intelligence work call for?

Aircraft and Engine Maintenance: What background and skills help fit you for jobs in this field? Describe the work of *aircraft mechanics*.

Guided Missiles Systems: What school courses and what job experience are helpful to secure Air Force careers in this field? Describe the work of *control systems mechanic*, of *guidance systems mechanic*, of *instrumentation mechanic*.

Aircraft Traffic Control and Warning: What personal requirements are important for success in this field? What school courses are helpful? Describe the work of *airways and approach technician;* of *control tower operator; aircraft landing control technician;* of *aircraft control* and *warning operator*.

Rocket Propulsion: Why is the field of rocketry a rapidly expanding career field? What previous experience is helpful for a rocket specialist? Why does a rocket specialist sometimes need physical strength and manual dexterity? What school courses are helpful? What are some related career fields?

Educational and Other Opportunities in the Air Force: Where do the members of the U. S. Air Force Officer Candidate School train? What are the requirements for admission to this program? What are the objectives of the Air Force Reserve Officers' Training Corps? What are the objectives of the Aviation Cadet program? What is the purpose of the new U. S. Air Force Academy near Colorado Springs?

Graduate First: What does the saying, "The grass is always greener on the other side of the fence" mean? What does "Look before you leap" mean? What facts (gathered in your community) indicate that a good high school education pays in dollars and cents? In personal happiness? Why do the President, the Armed Forces, and leaders of industry all urge young people to get a good education? In what ways do the "schools provide the powers of tomorrow"? Is it true that, "What you are when you finish school is pretty much the way you'll be all your life"?

Things to Do

1. Invite a local Air Force man (especially one on active duty) to talk to the class about careers in the Air Force, or show an Air Force film.
2. Assemble for class study your library's current Air Force materials.
3. Have an "Air Force Career" program and invite interested students to put on a round-table discussion.
4. Have students make charts on Air Force careers of special interest.

Advertisement

Teaching Guide for this issue of Senior Scholastic

How to Use This Issue

This special issue of *Senior Scholastic* is called "Your Career." It contains a series of articles and special features on "How to Choose a Career and How to Find a Job."

The special material on careers and techniques of finding a job may be used as the basis for one or more group guidance lessons on vocational choices.

Encourage pupils to save this issue as a reference to which they can turn for guidance in seeking a job or planning ahead in high school or planning for college.

In addition to the special material, this issue contains "Understanding the News" (pp. 39-41), "Science in the News" (p. 42), and "Creative Americans"(p. 46).

The teaching aids, below, include brief summaries of the articles, discussion questions, and things to do in handling both the career materials and the regular features.

As always, it may not be possible to handle all of the articles. Skimming the "Teaching Guide" will help you decide what you want to cover in class and what students should study "on their own."

Your Career Starts in the Classroom (p. 5)

The tone of this issue is keynoted by Marion B. Folsom, U. S. Secretary of Health, Education, and Welfare. In a one-page introductory article, illustrated with a chart illustrating the changing nature of our labor force, Secretary Folsom places pupils in the age in which we live and gives them down-to-earth advice, sputniks notwithstanding. "Stay in school" is his general message, and the reasons he offers are cogent.

Discussion Questions

1. Secretary Folsom is sure that you feel the challenge of "a new age—the age of the atom and of outer space." In what sense have you been challenged by the recent launching of Soviet and U. S. man-made satellites?

2. Leaders in our community and throughout the nation have stated that education in the United States today is perhaps more important than ever before in our history. Why should they feel this way?

3. Secretary Folsom advises: "Don't just take the snap courses to get easy credits." What courses do you think the Secretary has in mind when he writes about "snap courses"? How does a "snap course" differ from a tough course? Which of the courses (or subjects) do you regard as tough? Why? What possible benefits can you gain from electing the tough rather than the "snap" courses? (Note: A point you may wish to make in class is that many college admission officers look not only at the grades submitted by candidates but at the subjects in which the grades are made. The candidate with a "75" in solid geometry may be in a better position than the candidate who gets higher marks in subjects sometimes regarded as "snap" courses.)

4. In what fields are there critical requirements today? In what ways does our high school course of study help us prepare to fill the needs in these critical fields?

Things to Do

Study the chart on page 5. What significant changes have taken place in our labor force? Be specific by referring to the percentage of total work force involved.

Campus Greens—or Factory Jeans? (p. 6)

High school students must decide whether or not to continue their formal education after graduation. There is no single way of making this determination. Several suggestions are offered. The college-bound student is given some worthwhile advice in this article.

Things to Do

1. Have pupils report orally on part-time jobs they have held and the kind of work experience gained thereby.

2. Pupils can report on a talk they have had with parents or other qualified adults about choice of college or job after graduation.

3. Interested pupils can dip into college catalogues for information about scholarships and loan services.

For Girls Only (p. 7)

At least a few women are reported in all of the 446 occupations listed by the latest census. New opportunities for women in engineering and science are opening constantly. Out of 220,000 doctors, about 8,000 are women. Women are needed in numerous professional fields, although one third of women workers are employed in clerical, sales, and secretarial work. Of all women working, 60 per cent are married.

Things to Do

Get the girls to talk about their career plans. Keep their feet on the ground by raising questions about the need for meeting qualifications and aptitude for the kind of work or profession described.

Brave boys in the class can be asked to give their opinions about women entering such fields as engineering and science, etc., in greater numbers.

Discuss: Should married women with young children work?

Science and Engineering Careers (p. 8)

It is expected that there will be a continuing large demand in industry for engineers and scientists. Schools are paying increased attention to courses offered in math, physics, and chemistry.

Discussion Questions

1. What reasons have we for thinking that the demand for engineers and

TIPS FOR TEACHERS

How effective are you in vocational guidance? Most teachers feel more sure of themselves when they are offering educational guidance. They are less confident in the field of vocational guidance. This special issue of *Senior Scholastic* can be a bulwark to teacher confidence in the important field of vocational guidance.

It is not your job in offering vocational guidance to select a career for the student seeking counsel; on the contrary, helping him to make a proper choice on his own is sound guidance. Guide lines for vocational choices are drawn in this issue. They can be of help to teachers who wish to strengthen their knowledge of vocational guidance.

The issue will be a valuable resource for the high school student to whom it is directed.—H. L. H.

scientists will continue for many years to come?

2. Discuss the factors you must take into consideration before deciding upon a career in engineering or science.

Things to Do

1. One of the local industries, or a professional association of engineers, can be requested to arrange a visit by an engineer who will discuss the career field with a group of interested and qualified students.

2. Interested pupils can be encouraged to clip from newspapers articles which indicate the need for engineers and scientists and the role they are playing in our society. Articles can be pasted into a clipping book with date and source indicated.

Man-to-Man Talk (p. 10)

The Director of the Office of Armed Forces Information and Education compresses into a two-page article the opportunities offered both boys and girls who enlist in any of the Service branches.

Things to Do

1. Encourage boys to read the article carefully. Each senior would be wise to write to: "It's Your Choice," Washington 25, D. C., giving his name and address and the name of the Service about which he would like information. Girls, too, can request information about service in the WAC, WAVES, etc.

2. Some schools invite representatives of the various Services, singly or as a group, to speak to the graduating class about career opportunities in the Service.

3. Discuss: Should I enlist or wait for induction?

Test Your Own Career Aptitudes (p. 12)

This is an interest inventory which each student can complete himself. Suggestions are included for evaluating the information which the student enters in the blanks provided in the form.

Things to Do

Encourage pupils to complete the interest inventory at home. They can then discuss the completed inventory with parents, qualified adults in the community, or the school guidance counselor. We should, of course, remember that an interest inventory is *not* an aptitude test. It may, however, suggest broad areas in which a person who is also otherwise qualified may find satisfaction.

Coming Up!

in Future Issues

February 28, 1958

World Affairs Article: *New Nation in the Middle East—the merger of Syria and Egypt.*

National Affairs Article: *Atomic Energy . . . Jinni with a Thousand Disguises*—Peaceful uses of nuclear energy in industry, medicine, agriculture.

Forum Topic of the Week: *U. S. High Schools . . . In the Eyes of Foreign Students—A round table discussion in which students from eight foreign countries discuss the subject: How do U. S. high schools compare with those abroad?*

Creative Americans—18: *Mark Twain—Roughshod Humorist.*

* * *

Don't forget our contest on "How I Use Senior Scholastic." Details on page 7-T, January 24, 1958 issue.

Write It Right (p. 14)

Here is specific guidance for students who are seeking employment or who will be in the job market after graduation from high school. The article includes a model letter of application and a sample application for employment.

Things to Do

Letters of application may be written by the pupil on the blackboard and corrected with the help of the class. An opaque projector may be used to flash an employment application form on a screen. It can then be considered by the class.

Personnel File (p. 16)

A picture page in which the behavior of job candidates in an interview is evaluated succinctly.

Things to Do

Conduct a "practice" interview with a student. Decide in advance on the nature of the job and other details which the candidate should know. The class can then evaluate the interview.

What's My Line? (p. 17)

Pictures of nine young men and women successfully launched on their careers are shown. Pupils can then match faces with descriptions of the careers. Included also is a capsule summary of the outlook in each of the career fields.

Things to Do

Students can try to keep abreast of job opportunities in their career fields by reading publications of the state department of labor, reports of the U. S. Department of Labor, and various materials collected by many librarians and filed under careers, vocational guidance, or some similar title.

Facts on File (p. 19)

Career pamphlets in numerous fields are listed under job titles which are arranged alphabetically. The value of the latest edition of the *Occupational Outlook Handbook* is stressed.

Things to Do

Follow the advice for gathering career pamphlets which is given in the introduction to the listing.

Find out from your school librarian what materials are available. She may be interested in this issue of *Senior Scholastic* and may want to add to her career collection some of the pamphlets listed.

Night School Tells Day School (p. 22)

A day school teacher, who also teaches at night, hit on the happy idea of having his night school students write letters to day school students who are thinking of dropping out. You guessed it. The advice is to stay in school and get that diploma if you expect to advance on the job.

Things to Do

Perhaps one student can be delegated to interview one of the school administrators to find out what percentage of the students in your school leave to seek employment before getting a diploma.

Discuss: What can we do to encourage students to finish their high school education?

U. S. Air Force (pp. 23-38)

A special insert. See page 6-T for teaching aids.

Science in the News (p. 42)

A student of earth science (geology) may be able to tell the class about ores which have been widely utilized in a manner similar to the utilization of borax. Perhaps samples of ores, including borax, can be shown to the class.

Thomas Edison (p. 46)

An ambitious committee of pupils can read further about Edison in any of the many biographical treatments and histories of invention. It can then attempt a radio or TV script dramatizing one or more highlights in Edison's bright career.

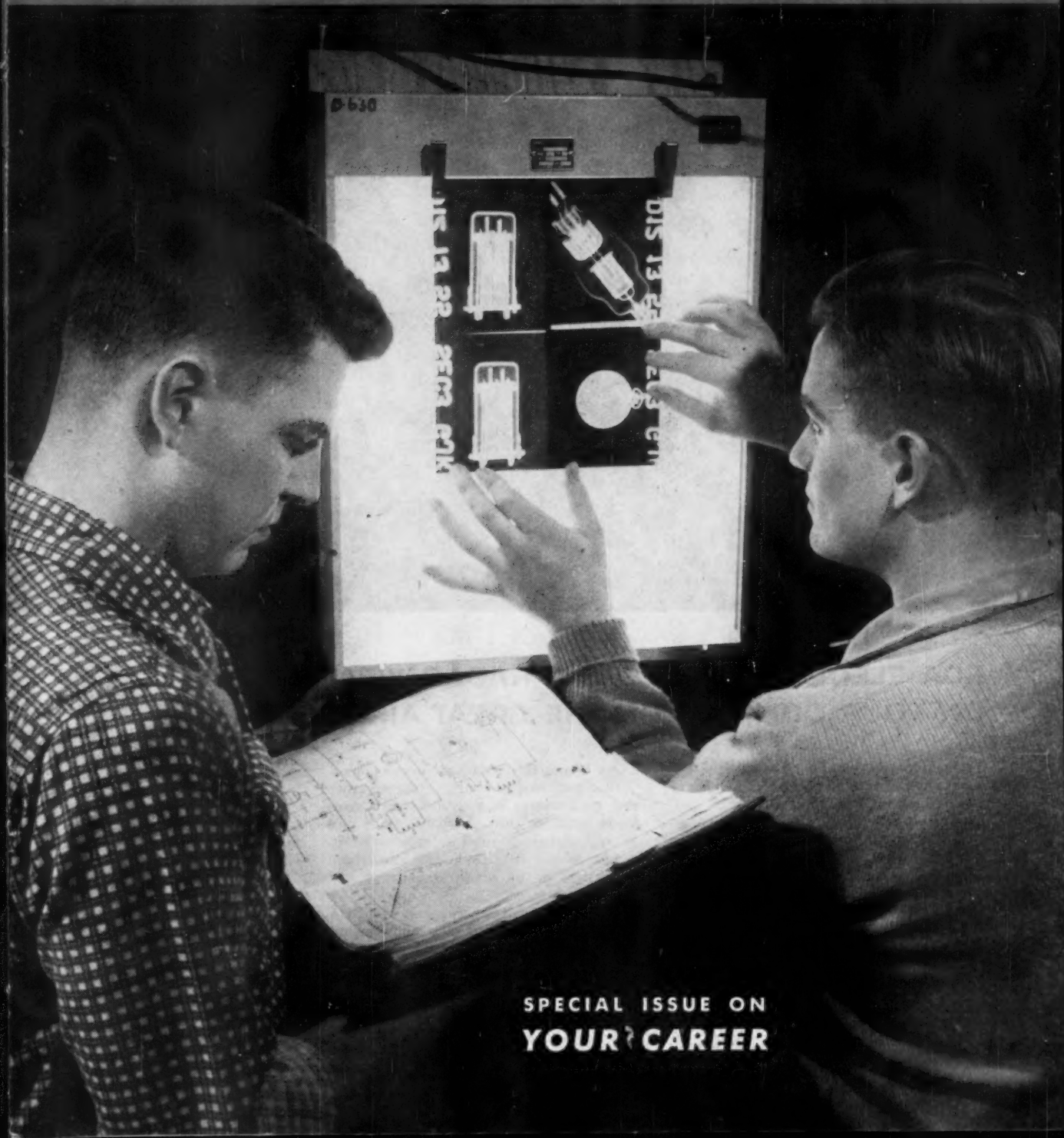
SCHOLASTIC TEACHER Edition is continued on page 9-T

Senior Scholastic

FEBRUARY 21, 1958 • VOLUME 72 • NUMBER 3

Price of This Special Issue: 20¢

RCA photo



SPECIAL ISSUE ON

YOUR CAREER

RCA ELECTRONICS KEEPS A RADAR "WEATHER EYE" ON YOUR COMFORT ON THE GREAT AIRLINES

Flying into a starless night, the pilot's vision may reach a mere 50 yards. Yet he clearly sees a storm brewing 150 miles ahead.

Within minutes he plots a slight change in course and flies a smooth, safe corridor *through* the weather. His passengers complete their trip in comfort and on schedule.

Credit RCA Electronics for the "Weather Eye" radar that makes all this possible. And the United Air Lines' all-radar fleet for being first (among 24 leading world airlines) to use this important development.

RCA pioneering has also produced radar that guides ships at sea, and tracks man-made satellites through space. RCA pioneered and developed color television, produced the world's largest electronic computer, peanut-sized transistors and much, much more.

Progress like this helps explain why RCA *means* electronics, and electronics means a happier, more secure future for you.

RCA

RADIO CORPORATION OF AMERICA

Airlines equipped with RCA all-weather radar include: United Air Lines (DC-7 at left), Trans-World Airlines, American Airlines, Continental Airlines, Pan American, Braniff, CAA, Air France, Cia Mexicana, Swissair, Sabena, BOAC, Iberia, RAAF, Air India, Qantas, Cubana, Korhumaki, Real-Aerovias, TCA, Japan Air Lines, Panair Do Brasil, Swedish Nabal Board, Pakistan Airlines, SAS, Thai Airways Ltd., Ethiopian Airlines, Olympic Airlines.

These men chose their schooling— so can you!

Pvt. Robert K. R. Smith
Washington, D. C.
Graduate,
Woodrow Wilson High School

"I took the exact Radar course I wanted, thanks to the Army's technical training program for high school graduates. Now I'm working in electronics. You can pick an Army course that fits your interests, too—and only the Army guarantees you the training you want before you enlist. So if you want to be sure you get what you want, you ought to see your Army Recruiter about this terrific program."

Pvt. Max LeBlanc
Lake Charles, Louisiana
Graduate,
LaGrange Senior High School

"I had heard that the Army would let me pick the training course I wanted, but I was surprised to find they offered over a hundred different courses—and every one is guaranteed for you *before* you enlist. I chose Drafting and got really valuable training. You can find an Army course that will suit you, too. I'd suggest you see your Army Recruiter, because only the Army gives you your choice of technical training."

Pfc. Archie L. Austin
Geyserville, California
Graduate,
Geyserville Union High School

"The Army's technical training program is sure a good deal. You're guaranteed just the schooling you want, and they offer so many different courses that every fellow can find one that will interest him. I picked Electronic Equipment Repair. I'd advise you to find out about this guaranteed training from your Army Recruiter."

Seniors—get all the details on how high school graduates can choose their technical training before enlistment from 127 modern courses. Mail this coupon for your free booklet today. Or for immediate counseling, visit your local Army Recruiter. He's listed in the phone book and will give you all the facts—at no obligation!

THE ADJUTANT GENERAL SC-21-2-58
Department of the Army
Washington 25, D. C.
Attn: AGSN

Please send me the free Army booklet telling how high school graduates can choose their technical training before enlistment in Modern Army Green.

Name .....

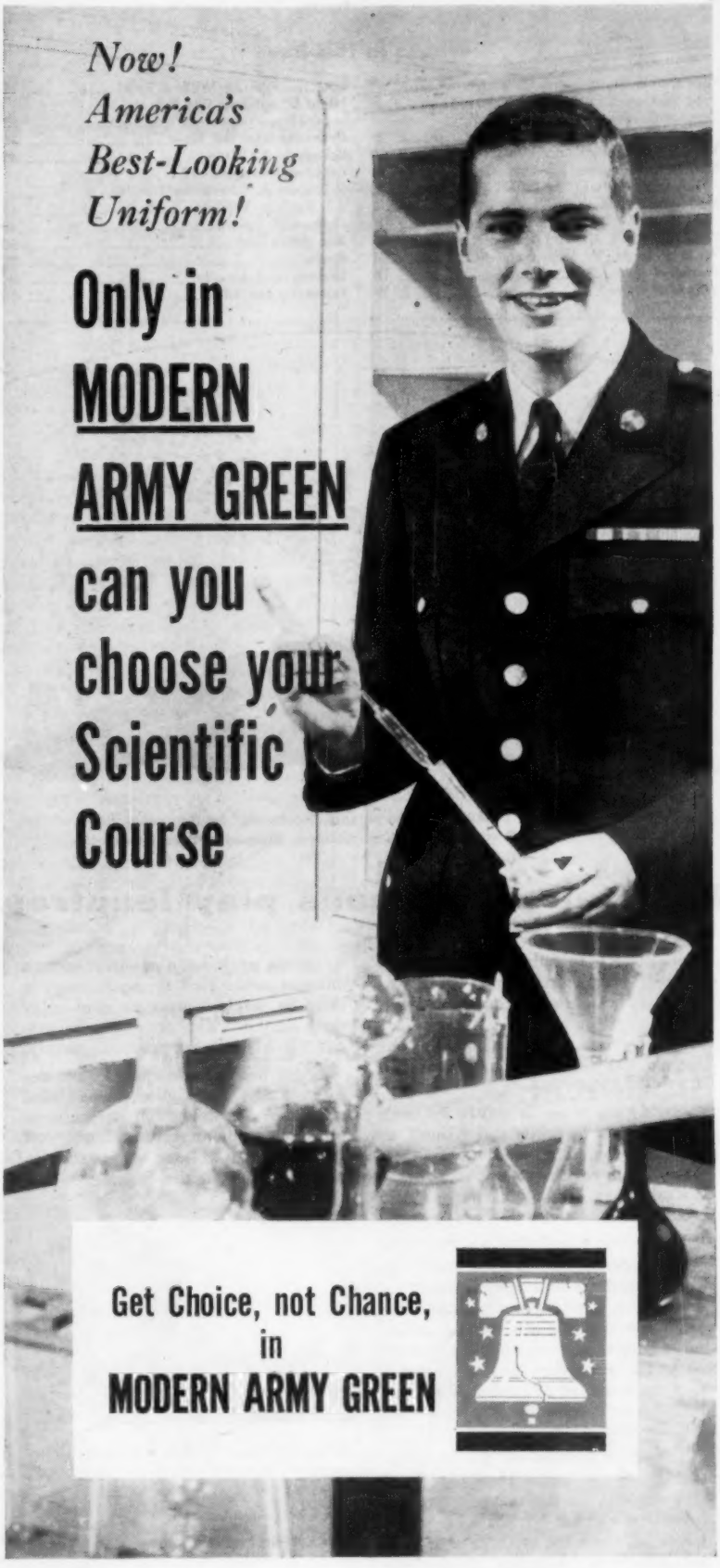
Address .....

City ..... State .....

Date of Graduation .....

Now! America's Best-Looking Uniform!

Only in MODERN ARMY GREEN can you choose your Scientific Course



Get Choice, not Chance, in MODERN ARMY GREEN

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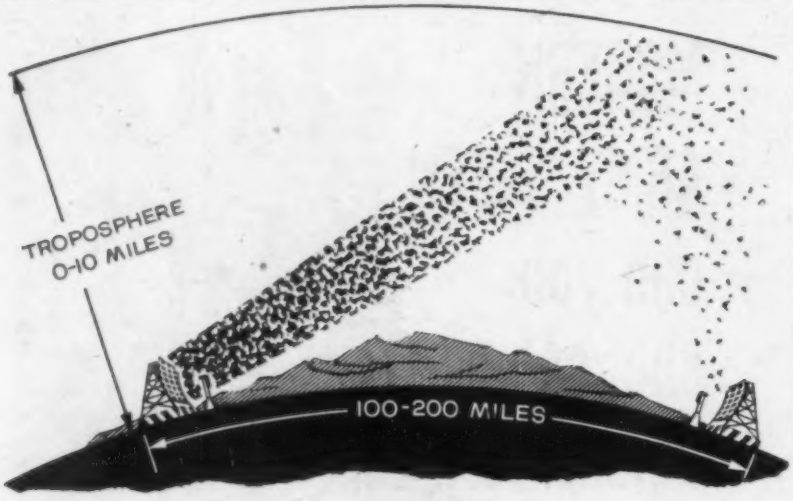


How Ultra High Frequency radio signals, "scattered" by the troposphere, cross mountainous country and save enormous sums in construction costs.

Now telephone calls play leapfrog

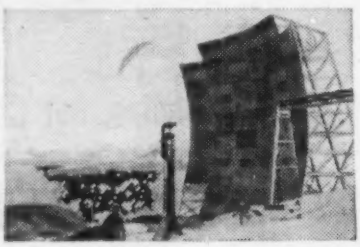
The Bell Telephone System was handed a real challenge when it was asked to design and build a communications system for our far-flung Alaskan defense bases. In many areas the terrain was rugged, mountainous and frozen.

Stringing wire or cable in such places would be costly and difficult, as would conventional radio relay systems, which require relay towers every 30 miles or so. Short wave radio wouldn't do because of atmospheric disturbances in that part of the world.

The answer had been found some years before by Bell System engineers and others. They discovered that Ultra High Frequency radio signals, which were ordinarily used with line-of-sight paths, could provide reliable transmission up to 100 or 200 miles—distances theretofore considered impossible for UHF transmission.

The effect is believed due to "scattering" of the radio beam by small irregularities in the troposphere, the layer of air which extends up to about ten miles above the earth. The signals that had been "scattered" in this way were very weak, but a powerful enough antenna could pick them up, amplify them to original strength, and relay them further. This was just the system for Alaska's mountainous terrain.

Today not only do our Alaskan defense forces have good, dependable telephone and telegraph communications, but many an Alaskan family can at last enjoy telephone service such as we enjoy here in the States.



Giant antennas like this, resembling drive-in movie screens, collect the "scattered" UHF signals.

BELL TELEPHONE SYSTEM

Senior Scholastic

A National Magazine for Senior High School Classrooms. Published Weekly During the School Year.

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Our Front Cover

The field of electronics is one that calls not only for physicists and mathematicians, but for technicians of all kinds. The young men on our cover are studying electronic tube circuits, which find application in everything from your TV set to the high speed computers that solve complex math problems in a twinkling.

Today electronic engineers are making vacuum tubes smaller and smaller. The tiny transistor—the size of a pea—is replacing the vacuum tube in many modern electronic installations. But the opportunities in electronics become greater and greater.

For a career in electronics, you need science and math. But the experts also advise students seeking a future in this field to keep up with English. It is important to be able to put across your ideas clearly and concisely on paper.

Wide World

Your Career Starts in the Classroom

By MARION B. FOLSOM
U.S. Secretary of Health, Education, and Welfare

YOURS is the very first generation of a new age—the age of the atom and of outer space—and I am sure that you feel its challenge.

Only a few years ago, when most of you were small children, the forces of the atom burst upon the world. And now, before we have even begun to touch the surface in the general use of this new kind of energy, a new chapter is unfolding—the conquest of space.

Let us all work—from this moment on—to see that the space-atomic age is not one of destruction but an age of bold new advances toward a better world than anyone has yet known. It can be that kind of a world, for the forces that can be used for destruction can also be used for good. The same force that lies within an atom bomb can be used to heat homes and turn the wheels of industry. The conquest of space, with its many military implications, can open up a whole new world of beneficial achievement—and exciting adventure.

You owe it to yourselves and to your country, to put a lot of thoughtful effort into developing your brains and skills to their highest capacity. You are the people who will do the nation's work and make the decisions in the future.

Education has always contributed greatly to the progress of our country—to all of the things that have made us a mighty nation. Formal education has given us much of the knowledge for social progress; it has helped develop the weapons to fight poverty; it has helped to create our American arts.

But now, today, education in the United States is perhaps more important than ever before in our history. It is vital not only to individual success but to the very survival of our freedom.

Make the most of your opportunities while you are in school—and plan to *stay* in school until you have obtained the most and best education you can get. You will find that training your minds and hands through education not only will have economic rewards, but it will give you great personal satisfaction.

Study diligently your chosen subjects. Don't just take the snap courses to get easy credits. Don't sell yourself short. Seek new facts, new knowledge. Education is not a one-way process; the teacher teaches but you must do the learning.

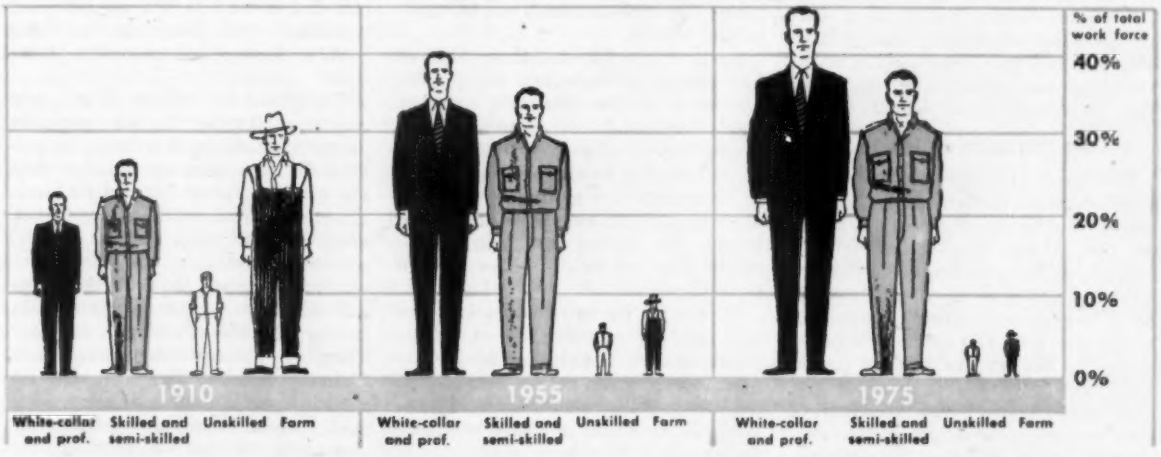
Regardless of the career you choose, you should know something of the world of mathematics and science, you should have a basic understanding of the history and geography of the world you live in, and of your own country. You should be able to use your own language and use it well in both reading and writing. You should take at least one foreign language.

The subjects I've been talking about are your working tools, important to you as part of your total education. And a well-rounded course of study is important in making your choice of a career, for by studying a number of subjects in high school you will find out—and find out sooner—where your true interest and abilities lie.

Today, in our complex and changing world, there are many different careers to choose from, and more chances for bright young people to get where they want to go. Never before have there been so many opportunities for talented boys and girls to get a college education.

Find out what the opportunities are. Your teachers, principals, school counselors, and parents can give you a good hand in this, and help you plan for higher education while you are still in high school. And in your own community there are many adult leaders in the business and professional world who would welcome the chance to help a young person get started.

Your country needs more doctors, more engineers, more scientists and technicians. And it needs more college trained nurses, more elementary and high school teachers, and more college teachers. These are critical requirements right now. In every field, your country needs men and women of imagination, creative thinkers and planners who take a long and broad view.



Reprinted from Changing Times, The Kiplinger Magazine

Chart shows how the demand is growing for white-collar and skilled workers. The unskilled—and unschooled—worker has a tough time finding a decent job today. In the world of tomorrow it will be even tougher.

Campus Greens— or Factory Jeans?

By OLIVER W. MELCHIOR

Board of Education, City of New York

"HERE I AM, a typical kid in a typical American high school. There are thousands like me all over the country. How are we supposed to sort things out so we get from where we are to where we want to be 10, 25, or 50 years from now?"

To answer that question looks like a hard job for any boy or girl. Luckily, it is not as impossible as it looks. It's like clearing the snow from the driveway after a heavy storm. When you lean on the shovel and look at all that snow, you wish you lived in Florida. But when you get busy and take it a shovelful at a time, the job gets done.

The first thing to get straight is that lots of people have solved the problem before, and you can do it too. Look around you. Your parents, for example. The parents of your friends. Your doctor and your clergyman. The woman who runs that new dress shop in town. The drug store owner. The repairman. They all started where you are.

FIRST FINISH SCHOOL

You have probably arrived at one major decision already—to finish high school. Maybe the decision was made for you. Maybe you drifted into it. Maybe you really sat down and thought it through and made up your own mind. All of your decisions about a career will be just like that. You will have a better chance to become the kind of person you hope to be if you sit down and think things through. Ask questions—of your teachers, your neighbors, the person you have a part-time job with, the people you baby-sit for. Almost any adult you trust will be flattered to be asked how he decided on his career. Ask a serious question, and you will get a serious answer.

GO TO COLLEGE

The next major decision you will need to make is whether to continue your education beyond high school. If so, what kind of education will it be? Of one thing you can be sure. Today we need more trained and educated people in proportion to the population than ever before. There is a shortage of engineers and scientists, teachers and psychologists, doctors and dentists, nurses and technicians. In short, all professions that require special abilities will look for new recruits to fill the ranks. Your trained talents will be needed and wanted.

Some of you may feel that you have had enough of books and school. You may want to enter the adult world of employment and earn money as soon as possible. In some cases this may be for the best. It might be a good idea to experiment by getting a part-time or a vacation job while you are still in school. This try-out may help you to decide that you want a better job and more education.

If it is to be more education, you will need to consider several things: marks, courses of study, and finances. In most cases you can get the best help in answering these questions from your guidance counselor or school principal. Requirements for college admission vary widely. Generally, you must have at least three to four years of English, two years of advanced mathematics, two to four years of a foreign language, a laboratory science, and two years of social studies. If your marks rank you near the middle of your class or higher, you can surely find an appropriate college or training school.

Costs will range from a few hundred dollars to over $2,000 a year, depending on the kind of education and location of the college. Many students find they can go to college near home and commute. This keeps down their costs. Others work for awhile before continuing their education. Scholarships are available for good students, and many colleges operate a student loan service through which you can borrow money at low interest rates. One fact stands out clearly: the energetic student, willing to work and make sacrifices now, can find a way to get an education which will repay him handsomely later.

What kind of an education should it be?

The liberal arts college offers a gateway to professions like law, medicine, dentistry, teaching, the clergy, or public life. It also offers the broadest training for an enriched life and for useful citizenship. You should study in such fields of knowledge as the *physical sciences* (astronomy, chemistry, geology, mathematics, physics), the *biological sciences* (anatomy, bacteriology, botany, physiology, zoology), *languages* (English, classical languages, French German, Spanish, Russian), *fine arts* (music, speech, drama, painting, sculpture), *social sciences* (anthropology, economics, history, political science, psychology, sociology, geography, etc.), *philosophy* and *religion*.

(Continued on page 58)

Oliver W. Melchior is principal of Scarsdale (N.Y.) H.S.

Planning on marriage?
Ready to turn up your nose at the job field?
You may change your mind when you read some advice

For Girls Only

Nursing, which offers great personal satisfaction, is a favorite career for women.

By CLAIRE GAUCHER

IF YOUR eye is on a career, you're lucky to be a girl. Never before in history have there been so many job opportunities for women. You're not only needed—you're *wanted*!

Today there's a difference. At one time when, despite shortages in certain fields, a girl so much as breathed a preference for engineering or medicine, she was told to forget all about it. Women were not considered capable of these professions; nor were they supposed to tread on male-dominated fields. Not so now! Times have changed and so have a girl's career opportunities.

Want to be an engineer? Listen to Beatrice A. Hicks, past president of the Society of Women Engineers and president of her electronics firm, Newark Controls:

"New opportunities for women in engineering and science are opening constantly. They include research, design, development, production, and sales for new products and projects. If you enjoy scientific subjects in high school, consider science and engineering as a profession where this ability is needed and where it will bring you satisfaction in your work."

Women are no longer looked down upon or relegated to sub-professional status once they are trained for engineering. Nor do they find it difficult to find and hold jobs in this field.

Want to be a doctor? Five per cent of all graduating medical students in this country today are women. Out of 220,000 doctors, about 8,000 are women. Their main specialty is pediatrics, with obstetrics and gynecology following in that order.

The battle to achieve equal status with men, in a predominantly male field, has been a long and constant one. In 1871, at an American Medical Association meeting, women, as prospective medical students, were dismissed with this unfortunate judgment: "*A woman's most striking qualities are uncertainty of rational judgment, capriciousness of sentiment, fickleness of purpose, and indecision of action—all of which totally unfit her for a place in the medical profession.*"

In the intervening years and particularly during World War II, the need for women doctors opened up medical schools to them. Women today are fully accepted by the medical profession.

The whole range of jobs held by women today is wider than at any other time. At least a few women are reported in all of the 446 occupations listed by the latest census.

Despite the fact that about 28,000,000 women 14 years of age or older are working, there are shortages of women workers in many fields requiring special skills. You are needed as teachers, nurses, social workers, home economists, chemists, dietitians, occupational and physical therapists, librarians, medical and laboratory technicians, mathematicians, statisticians, and personal specialists.

Professional work such as the foregoing requires more training than clerical, sales, or secretarial work, where one third of our women are employed. You will need to spend four years at college or have other special schooling. The financial rewards, advancement, prestige and security are usually greater here than in work in other fields.

Biggest demand for women is in elementary and secondary school teaching where a nation-wide shortage exists. Starting salaries range from $3,200 to $4,400. (A college degree is almost always required.)

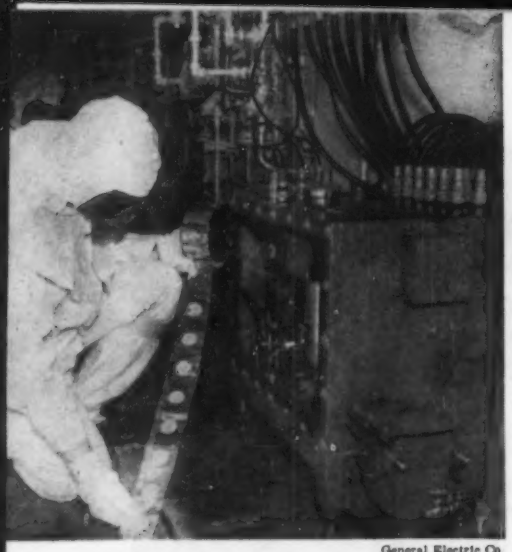
Secretaries are next in demand, with starting salaries ranging from $2,870 to $3,900 a year. You don't have to have a college education for this career, however. You can take a commercial course in high school or, if you take the academic course, you can attend a business school and acquire the necessary typing and shorthand skills in a comparatively short time. Secretaries and typists are always needed, even on a part-time basis. Another important career for women is nursing.

Do marriage-minded girls need job insurance, too? Yes, indeed. If all this job talk seems not to apply to you because you plan to make marriage your career rather than the business or professional world, consider this:

In a report made by the National Manpower Council last year, it was discovered that of all women working, *60 per cent are married!*

Inasmuch as you may be included in this 60 per cent figure some day, preparation for a career today may be very important to you tomorrow. Suppose there is an emergency later in life, such as the death or incapacity of the family breadwinner? You, as a housewife, might be forced to go back to work. Even if there is no emergency, many middle-aged women like to return to work after the children have grown. They do this not just to add to the family income, but to find new interests and to make themselves more vital individuals.

How about it? Don't you think it's smart to prepare for your future wisely?



General Electric Co.

This "man from Mars" is a radiation detector at Hanford (Wash.) plutonium plant. He is recovering bits of plutonium waste still usable.

Science and Engineering

. . . For those students who can master the "tough" courses like math, chemistry, and physics

By JOHN R. DUNNING
Dean of the Columbia University School of Engineering

"IS ALL this talk about a shortage of engineers just a temporary thing, or will it last?" asked a high school junior. "I like chemistry and physics, but I'm afraid that by the time I graduate there'll be enough engineers to fill the demand."

I can answer his question emphatically. He certainly *will* have his choice of jobs in science or engineering five years from now. So will thousands of other intelligent, well-trained boys 10 and 15 years hence. Our modern, wonderful world is still at the threshold of the Age of Space, Electronics, and Automation. Science will explore everything it can—from the innermost secrets of the atom to the outermost fringes of the universe. Engineers will use new knowledge and instruments to do things that will enrich human life in ways now undreamed of.

But the most urgent reason we must keep our bright young brains interested in physics, chemistry, and mathematics lies halfway around the world. Last year—the year of the Sputniks—Russia graduated twice as many well-trained engineers as we did! If this trend continues, Russian scientists and engineers will leave us far behind in the race to unlock the secrets of nature and produce what the world needs and wants. This country will become a third-rate power because our scientific progress will slow down to a walk. Russia will have beaten us without dropping a bomb.

The jam we are in is the fault of no one in particular but rests with all of us. Recently the President established the President's Committee on Scientists and Engineers. The committee will help local groups meet the problem of solving shortages of technically trained people, and revitalize high school science.

Certainly one of the biggest things schools can do today is to keep you posted about the rewards of science and engineering. Teachers can help you recognize scientific aptitudes and encourage you to study courses which lazy or less-gifted classmates may call "tough."

America is searching for our best brains to fill the best jobs in tomorrow's world. Both teachers and parents can help in the search. But you young people will have to make the final choice about your future career.

About Engineering

Say *engineer* to some people and they think you mean Casey Jones. Others visualize a fellow using a slide rule to figure out how to bridge a stream—a boring chap stuck in a poorly paid, unglamorous grind. And if you say *scientist*, they picture some sallow-faced "creep" talking to himself amidst a bunch of glass tubes in a basement laboratory.

Well, the "bore" engineer and the "creep" scientist live mostly in the comic books these days. The facts are far different from fiction.

What sort of pay do engineers get? Today's graduating class of nearly 30,000 (Russia graduated 60,000) could choose from a number of job offers at an average starting salary for a B.S. degree of $450 a month. A brand-new Ph.D. in Science can often start at $700 to $750 a month. A student who can spend the additional time to acquire a doctorate in science or engineering will add $100,000 to his life income.

Only three years after graduation, many engineers earn as much as $12,000. The research director of a medium-sized company gets $15,000 to $25,000 a year. This same job in a large company will bring $30,000 and up. More than a third of the presidents of 150 American companies, from department stores to steel mills, are engineer-trained.

A member of the Atomic Energy Commission said recently that the number of engineer-scientists who would be needed in the very near future to work on applications of nuclear power would amount to 40,000.

As we move forward into the machine age, we will need more and more people to supervise the machines and design new ones. Automation, though it replaces manpower with machine-power, actually creates more jobs than it destroys. Industries concerned with automation itself have taken on as many engineers as there were in the entire auto industry in the middle 1930's.

The opportunities are so many that if *every* qualified young man became an engineer there still wouldn't be enough of them to go around.

How can we spot scientific talent in a teen-ager? How can he spot it in himself? Few generalizations are possible, but there are several characteristics most successful engineers have.

Curiosity is one. Why does a jet engine work? How do we know an atom is there if we can't see it? Another is a *practical mind*. Is this project worth doing? Will the result accomplish what I want it to? A third is *efficiency*. Do I know where the money I earned last week went and for what? Do I budget my time or wait till the last minute?

If a boy in grammar school takes a lamp apart to "fix" it or is found with his head underneath the dashboard of the family car, he should visit museums or science fairs. I remember one youngster, whose parents took him to the Smithsonian Institution in Washington. Two years later the boy visited the

This is a revised version of an article which originally appeared in the December, 1955, issue of Town Journal. *It is reproduced by special permission of the magazine and the author.*

Careers in Tomorrow's World

museum again. He began his second visit where he left off—at the south end of a 90-foot stuffed whale.

This is a long-term interest in science. Young people should have their enthusiasms nourished. If there is a school science club in your school, join it by all means. If your neighbor is an engineer, get to meet him. He'll be glad to tell you about his experiences.

What should you study in high school if you want to be a scientist-engineer? You should make your decision by the 8th or 9th grade if possible. You should take mathematics through trigonometry. If you can, take a year of physics, plus any other laboratory science course.

An encouraging indication of renewed interest in science is that 23 per cent of 12th grade school students now take physics. A few years ago many schools offered no courses in physics or chemistry. Now, however, in spite of the shortage of science teachers, 95 per cent of all students reaching the 12th grade have a chance to take physics and chemistry.

English is most important. The ability to read easily and with enjoyment is vital. Courses such as shop, drafting, and other mechanical aptitudes should be deferred in favor of languages and public speaking. German, Russian, and French, in that order, are most useful to science majors. Today's engineer shouldn't have a one-sided education.

If you want to be an engineer, you should maintain at least a "B" average in science courses. In English and languages, try to stay in the top half of your class. Few "C" students make the grade in engineering.

But a science-bound student needn't turn up his nose at clubs and sports. The modern engineer or scientist must know how to work with a team. Atomic energy came from the work of thousands of people.

Jobs Available

The **basically trained engineer** can fit into many jobs. He can be a sales engineer and use his training to help solve customers' problems. The student who is active in extracurricular affairs is apt to like this work later.

Research and development is likely to appeal to the more inquisitive mind, the one with imagination to create new things. Students who do extra reading and follow up on special projects will probably enjoy this niche.

Production engineering calls for a man with ability to put things together better and faster, possibly the kind who was on a high school team, who can work well with people.

Management—where many engineers eventually find themselves—also requires ability to work with people, but it calls for a strong sense of organization, too.

You can get some idea of the variety in engineering when you look at the departments of an engineering school.

Chemical engineering covers the industry in which raw materials like wood and vegetable fibers are changed into new products like plastics and nylon.

Civil engineering is concerned with planning and constructing projects like roads, bridges, and buildings.

Electrical engineering deals with making and transmitting electrical energy, and using it for communication, power, and control.

Industrial engineering deals with the management of men, materials, machines, and information.

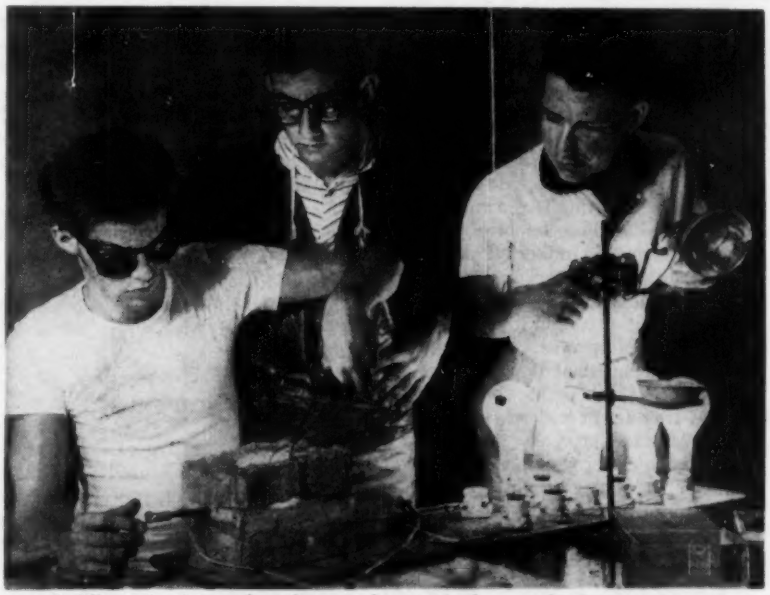
Mechanical engineering is concerned with designing, maintaining, and constructing machines.

Mining and metallurgical engineering deal with locating, extracting, and refining the earth's mineral and petroleum deposits.

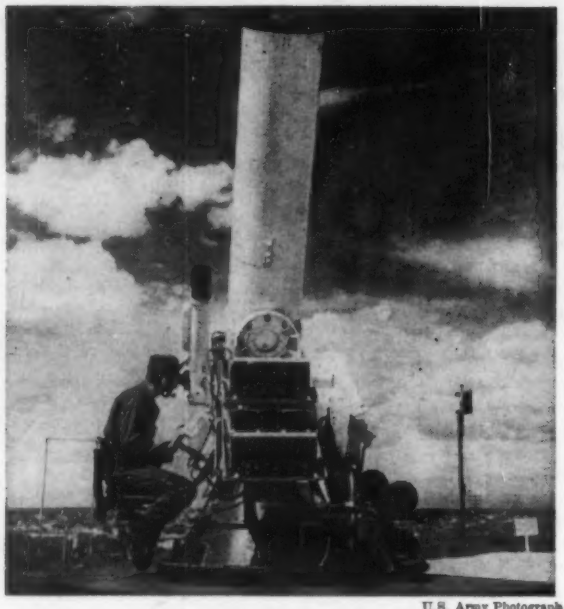
There will be more and more things to do as our technology widens, and the graduate scientist-engineer is the man who must do them. The age of the atom has just begun. We need more people who understand its application. New metals must be engineered for use with jet power and nuclear power. We are running short of many raw materials and must find substitutes. A cubic mile of sea water contains quantities of every known material, but so far we have extracted only a few, such as iodine and salt, from the ocean. Solar energy, rockets, food production—these are three more fields in which scientific pioneering is needed.

What an exciting and rewarding future for a student to miss just because he didn't consider geometry and physics important!

For more information about careers in science and engineering, address The President's Committee on Scientists and Engineers, Washington 25, D. C.; Manpower Commission, Engineers Joint Council, 29 West 39th Street, New York 18, N. Y.; Engineers Council for Professional Development, 29 West 39th Street, New York 18, N. Y. A pamphlet entitled "Do I Have Engineering Aptitude?," a self-analysis for high school students, is available from Testing and Guidance Division, Newark College of Engineering, Newark 2, N. J. Material for students in the field of chemical engineering is available from Manufacturing Chemists Association, Inc., 1625 Eye Street, N.W., Washington 6, D. C.



Budding scientists and engineers take part in four-week "Summer Science Day Camp," sponsored by Delaware Section, American Chemical Society.



U.S. Army Photograph

At New Mexico's White Sands Proving Ground, Private Lee Hasbarger views tracking telescope.

Your Career

Man-to-Man Talk

By BRIGADIER-GENERAL S. F. GIFFIN, USAF

SHOULD I enter military service now —or should I wait and see if I'm inducted?

These alternatives face every able-bodied American young man who approaches high school graduation today.

If you are one of these youths, you may already have made your decision. Perhaps you've decided on a miltary career. If so, congratulations! Your country need intelligent, dedicated young men. This is the time when each one of us needs to bear a personal responsibility for the safety of our nation. No one can take the gift of our freedoms and the protection of our country for granted. The need for you in the Armed Forces is as great now as it was in the days of America's struggle for independence. Not only can you help preserve the national security of your country, but you will find real opportunity in any branch of the Armed Forces. Whether you decide to make it a career or not, this is the time to investigate what those opportunities are.

Assume you are interested in a career as an officer. You may qualify for entrance at one of the Service academies. If you are accepted and if you are graduated, you will receive a commission as a Second Lieutenant or as an Ensign. Another road to a commission is through ROTC training at college. In the case of the Marine Corps, you may obtain a commission either way . . . or by taking summer training given by the Marine Corps during your college career.

If you've already decided on a civilian career, you may be able to get training in your chosen field while you are in Service and discharging your military obligation to your country.

Under present laws every able-bodied male betwen the ages of 18½ and 26 faces the obligation of serving a minimum of six years in the Armed Forces *if* the Government calls him.

Part of this time may be served on active duty (full time military service) and the remainder in the Reserve with, in general, once-a-week drills and a summer encampment or cruise. If so inclined, of course, you may serve all six years of your obligation on active duty.

All five Services—Army, Navy, Air Force, Marine Corps and Coast Guard—have Reserve components. All permit enlistments directly into the Reserve, and all except the Navy permit you to serve as little as six months on active duty plus time as a Reservist as a means of fulfilling your military obligation.

For detailed information about what the Services require and have to offer, write to: IT'S YOUR CHOICE, Washington 25, D. C. Give your name and address and the name of the Service or Services about which you would like information.

IF YOU ENLIST

You get several "breaks" if you enlist rather than wait until you are inducted. If you enlist, you eliminate the gamble of being drafted at an inconvenient time in your life—possibly when you are making good headway in a civilian pursuit.

But more particularly, when you enlist, you have your choice of the Services and, in many cases, your choice of special training and duty posts—at home or abroad.

You have no choice if you are inducted. You are placed in the Service that needs manpower and in the particular field in that Service dictated by its need at the time.

GET ACQUAINTED NOW

It is particularly important that you acquaint yourself *before* you enter the Armed Forces with all the opportunities afforded by each of the Services. The Army offers high school graduates certain choices of job training that the Navy does not—and vice versa. The Air Force offers technical instruction that you can get only in the Air Force. In short, each Service has specialties of its own—and you should know them.

Many Service activities have exact counterparts in civilian life. Others relate to, or parallel, civilian fields. Perhaps, for example, you want to become a photographer. If so, you can get photographic training and experience in any of the Services.

Suppose you enlist in the Army and request duty as a welder. Since there is a great demand for welders, you most likely would be sent to a specialists' school for several months and be taught this trade by experts. Then you would be assigned welding duties. This probably would be your main assignment during your entire tour of duty in the Service.

You could plan a satisfying career in the Army, but if you return to civilian life you will find that you have the experience and "know how" to get a good job as a welder.

General Giffin is Director of the Office of Armed Forces Information and Education.

How to make the most of your military service

TRAINING IS VARIED

Suppose, on the other hand, you enter the Air Force and go into communications. Here, again, you will find a rewarding career. But if you do return to civilian life, the training you have received will equip you for a number of jobs. You could become a telephone or electric power lineman, telephone inspector, radio or television technician.

Civilian jobs that have almost exact counterparts in the military include photographer, electrician, radio operator, and engineer—but there are many others.

The Army guarantees a choice of over 127 courses to the young man high school graduate, including training in fields as far apart as guided missiles operation and finance, radar operator and machine accountant. Some 26 courses are offered by the Army to the young woman high school graduate.

Even if you are assigned to a job as far removed from civilian life as artilleryman or tanker, you still can gain something valuable from your time in Service. In virtually any military assignment you learn teamwork. If you have any leadership ability, you'll be given ample opportunity to demonstrate and develop it. Thus you'll gain maturity, which will benefit you greatly when you return to civilian life.

MILITARY CAREER

After you've had some active duty, you may decide on a military career. This could be the wisest decision of your life! In the unsettled world of today, all signs point to continued emphasis on defense—to protect our way of life against Communist aggression. Thus, if you do your part, you will have plenty of chances for promotion. More important, you will have a satisfying career in which you will do your part to advance the cause of democracy and preserve world peace.

The Services offer many other benefits. For one thing, today's serviceman is afforded numerous opportunities to travel and he generally gets to see far-off lands he might never see otherwise. Also, if he becomes ill he has the vast medical and hospital facilities of the Government at his disposal. Dependents of Service personnel, too, get medical and hospital benefits.

RETIREMENT BENEFITS

All things considered, the No. 1 benefit the serviceman gets, probably, is excellent retirement pay after comparatively short service. With only 20 years of active duty you can retire at half pay—money you receive immediately on leaving the Service (not at age 60 or 65). And this retirement pay rate goes up with increased service year-by-year thereafter, so that after 30 years' service you can retire with 75 per cent of your base pay. You will receive this pay whether or not you enter other gainful employment. Many servicemen retire in their forties and start second careers while receiving retirement pay.

Also, now, Service personnel are included in the Social Security System, and time-in-service helps a person build up old age benefits, which are paid (for men) starting at age 65. These are in addition to any retirement pay you may draw.

U.S. Navy Photo

Navy gob and gals sightseeing in Paris

OPPORTUNITY FOR EDUCATION

There is ample opportunity for you to pursue your education while in Service. For example, the United States Armed Forces Institute (USAFI) offers both correspondence and group study courses in high school and college subjects for which academic credit is given. While in Service, you may take examinations for one of the Service Academies which provide a college education at Government expense as well as the opportunity to get a commission. The Air Force also offers Aviation Cadet Training to those who can qualify—leading to the rating of Pilot or Navigator, and commission as a Second Lieutenant.

Private industry has definite benefits for its workers, but the Services, nowadays, offer many advantages too. These advantages should not be measured by material considerations alone—they are intertwined with defense of country and the survival of not only our way of life but that of the rest of the free world.

If you are undecided at this point on what to do in the near future, by all means give serious thought to what all the Services have to offer.

U.S. Air Force Photo

Pilot Donald C. Hedlund, at left, briefs his B-52 Stratofort crew before taking off from Castle Air Force Base, Merced, Calif.

Test Your Own Career Aptitudes

My name _____ Age _____ Date _____

I. *What your school record shows.*

A. Average grade in English _____

B. Average grade in history _____

C. Average grade in science _____

D. Average grade in math _____

E. Name your two favorite school subjects (art, music, shop, English, etc.) and give the average grade for each.

1. _____ Grade _____

2. _____ Grade _____

II. *School activities (sports, plays, club work, etc.) are also important.*

A. Your favorite school activity is _____

_____

1. Why it interests you _____

_____

_____

2. Offices (president, secretary, captain, etc.) that you've held in this organization: _____

_____

B. Another favorite school activity is _____

1. Why it interests you: _____

_____

_____

2. Offices you've held in it: _____

_____

III. *Your three favorite hobbies (cooking, carpentry, photography, reading, etc.) are:*

A. _____

B. _____

C. _____

IV. *What do you like to do best outside of work and school hours (play softball, listen to the radio, tinker with your jalopy, etc.)?*

A. _____

B. _____

V. *What skills (typing, driving a car, fixing people's hair-dos) do you have?*

A. _____

B. _____

VI. *What course of study or special training (business subjects, aviation, mechanical drawing, music, etc.) would you like to take if you could?*

_____

_____

VII. *Has anyone ever said that you were especially good at doing any one thing (getting along with people, acting in a play, speaking, playing the piano)? If so, what?*

_____

_____

VIII. *Have members of your family or friends suggested any particular career to you?*

What? _____

How do you feel about this suggestion? _____

_____

IX. *What have you often thought that you'd like to do for a living?* _____

_____

A. Why? _____

_____

B. How long have you been interested in it? _____

_____

X. *What occupations or fields of work would you like more information about?* _____

_____

XI. *Consider your part-time jobs. Name two part-time or summer jobs you've held and answer these questions about them:* _____

A. Job 1 was _____

1. Why did (or didn't) you like this part-time job?

_____

_____

2. Name any job in this field you might be interested in for a career: _____

_____

B. Job 2 was _____

_____

1. Why did (or didn't) you like this part-time job?

_____

2. Name any job in this field you might be interested in for a career: _____

_____

C. *In which part-time job were you most useful to your boss?* _____

_____

XII. *Different jobs require different types of reading.*

A. Do you read newspapers? _____

If so, name one _____

What parts? _____

B. What magazines do you read often? _____

_____

C. What three books (outside of school books) that you have read do you especially like? _____

_____

_____

_____

XIII. *What radio (or TV) programs do you especially like?* _____

_____

_____

XIV. *Check the activities in the list below which especially interest you and tell why you like them.*

__A. Working outdoors _____
__B. Writing _____
__C. Solving puzzles _____
__D. Being always "on the go" _____
__E. Using tools _____
__F. Meeting many people _____
__G. Repairing things _____
__H. Making speeches _____
__I. Doing research work _____
__J. Facing danger _____
__K. Working at many things _____

_____

__L. Growing plants _____
__M. Doing new things all the time _____

_____

__N. Doing work which requires work clothes, getting hands dirty _____

XV. *Check two of the following things which you would like to do best about either a radio or a garment. (Place a check after radio ____ or after garment ____ to indicate choice.)*

__Make it
__Sell it
__Improve it practically
__Draw a picture of it
__Write about it
__Buy it
__Plan (or design it)
__Repair it
__Use it
__Improve its beauty
__Teach others about it
__Write ads about it

WHAT'S YOUR SCORE?

Now that you've finished the Inventory, how can you "add up the answers" to discover what your answers tell about you?

Here's where you should have expert advice. Show your Interest Inventory to your school's vocational counselor or to a teacher who knows you well, and ask for his (or her) opinion. If you like, show it to your folks and ask their advice. It is easier for another person to see your pattern of interests than it is for you to see it.

If you want to study it yourself, here are some tips to help you:

Look over your answers and then summarize them by answering these questions.

1. *What are my likes and dislikes?*

__a. Do I seem to prefer to work with people?

__b. With ideas (such as research for writing papers, science experiments)?

__c. Or with things (automobiles, gadgets, mechanical equipment)?

__d. Do I prefer to work indoors or ____ outdoors?

__e. Do I like to work out details and do routine work (checking long columns of figures, making inventories, etc.)?

__f. Or do I prefer a job which offers a variety of duties with fewer details (being a receptionist or an entertainer)?

__g. Do I prefer physical activity?

__h. Or mental activity?

__i. Am I a natural leader (head of clubs and teams)?

__j. Or do I prefer to have someone tell me what to do?

2. *What are my physical and mental characteristics?*

__a. Am I physically strong?

__b. Am I nervous?

__c. Do I work until a job is finished?

__d. Am I shy? __Self-confident?

__e. Do I become angry easily?

__f. Or am I calm, slow to anger?

3. *What job fields do I seem to be especially interested in?* (Note: Study job fields rather than particular jobs. That way you're more likely to discover the career that's right for you.)

a. _____

b. _____

c. _____

Suppose that your answers indicate no particular interest in any job field. This is possible; don't be discouraged. Then ask yourself this question:

4. What further education will I need to go with my interests? (For example, do your hobbies, school record, reading, etc., indicate that you'd do well and be interested in going to college, taking an apprenticeship training course, going to some business or technical school? Or just completing high school?)

_____

_____

Finally, work out a plan for exploring your interests further and for discovering more about the job fields. Remember that you are trying to make one of the most important decisions of your life. Take your time; work slowly and steadily until you are sure you've found the career that's right for you. Happy hunting!

Want to land that job? Learn to—

Write it Right

BY PEGGY SPAETH

LOOKING for a job? Planning to work next year? Well then, chances are you'll be doing some letter writing very soon.

No matter what kind of job you're looking for, getting it will undoubtedly involve some letter writing. When you spot a newspaper ad for an appealing job, you'll want to write to apply for the job. When your future employer asks for a letter of recommendation, you'll want to write a letter asking your principal or minister to do this for you. When you've had an interview with a prospective employer, or when someone has written a letter of recommendation for you, you'll want to thank him in a letter.

These are the three main types of letters you'll have to write when job-hunting time comes around: the *letter of application*, the *letter asking for a recommendation or reference*, and the *follow-up letter*.

There will be another kind of writing involved in the business of getting a job, too—filling out an employment application. Neatness and accuracy will count there.

"I'D LIKE TO APPLY . . ."

Suppose you've seen this ad in the help-wanted section of your local newspaper:

SALES TRAINEE. Young man or woman, h. s. grad, needed for sales department of publishing company. Experience not necessary; we prefer to train our own employees. Guaranteed $240 monthly plus commissions. Write, stating age, qualifications, educational background: Mr. Willard S. MacRae, Personnel Mgr., Redburn Publishing Co., 350 Block St., Remington, Mich.

How would you answer that ad? Mr. MacRae isn't going to have time in his busy day to talk to every person interested in the job who walks into his office. But if you write a letter to Mr. MacRae describing your qualifications and asking for an interview, your chances of getting the job will be much better. Here are some tips to help you write the kind of letter that will make a good impression on Mr. MacRae:

1. *Show the purpose of your letter in the opening paragraph.* Tell exactly which job you are applying for and where you found out about it.

2. *Show that you fulfill the requirements for the job.* Tell why this particular job interests you.

3. *State your educational background and any special accomplishments in school.* Tell Mr. MacRae where you went to high school and what kind of course you took—business, general, manual training, college preparatory. Mention extra-curricular activities which relate to the job. Describe work experience.

4. *Suggest an interview and offer to supply references or letters of recommendation.*

When you've followed these four tips, your final product should look—and read—something like the letter of application in the box at left.

If you're answering an ad which gives only a box number, address your letter to the box number in care of your newspaper. Use "Dear Sir" as your salutation and follow the four points above in writing the body of your letter.

"I'D LIKE TO RECOMMEND . . ."

If Mr. MacRae has never seen you before, he'll probably want to know something more about you. Your school record is important here, but it's not enough. Mr. MacRae will want to find out from people who know you well if you are reliable, honest, and easy to get along with. That is, he'll want letters of recommendation or references.

Before you go to your interview with Mr. MacRae, it's a good idea to decide whose names you're going to use as references. The people whose names you give him will appreciate it if you ask their permission first.

Here are some hints on writing to request a letter of recommendation or to ask a person's permission to use his name as a reference:

LETTER OF APPLICATION

45 Lawn Avenue
Remington, Michigan
February 20, 1958

Mr. Willard S. MacRae
Personnel Manager
Redburn Publishing Company
350 Block Street
Remington, Michigan

Dear Mr. MacRae:

I should like to apply for the sales trainee job which is open at your company. I learned about the job from your advertisement in the February 19th edition of the Remington News-Journal.

For several years, I have been interested in sales work. During the past semester at Remington High School, I served on the business staff of the school newspaper. My duties have included selling advertising space to local stores and businesses. I have also had experience as a sales clerk at the Corner Book Store for the past two summers.

At Remington High School, I have taken the general course, which includes both college preparatory and business subjects. I am 17 years old and will graduate from high school in June, 1958. I have had several literature courses in high school and have studied typing, as well.

If you would like to see my high school record, I will ask my principal to send it to you. I am prepared to have letters of recommendation sent to you at your request.

I shall be happy to report for an interview at your convenience after 3 p. m. on weekdays, or any time on Saturdays. My home telephone number is Remington 7-0416.

Sincerely yours,

John W. Nelson

▶ Choose the people carefully. Write to people who know you well and whose judgment you respect. Choose older people—a past employer, a friend of the family, a teacher, a principal, a minister. If possible, choose people who have seen you doing the kind of work for which you are applying.

▶ Ask them if they will recommend you. At the beginning of your letter, state exactly what you want—a recommendation or a reference. Tell them for whom you want it and why.

▶ Tell the people what kind of recommendation you want. Explain what kind of job you are applying for. Ask them to discuss your qualifications for that particular job.

▶ Have them send the letters directly to your prospective employer. Mr. MacRae will want to see a full, unbiased letter. Be sure to give Mr. MacRae's full name and address so the letter can be sent directly to him.

"I'D LIKE TO THANK YOU . . ."

The kind of follow-up letter you write when getting a job is really a thank-you note. If someone has recommended you for a position, you should write to thank him—even if you didn't get the job.

Sometimes you'll be interviewed by an employer who sees a number of people before he decides which one he wants for the job. You'll have to wait a while before you hear definitely. While you're waiting, it's a good idea to write a follow-up letter.

Thank Mr. MacRae for the interview. Tell him that you appreciated the chance to see him and his company. Tell him exactly how you feel about the job now and whether you're still interested in it.

Many companies have employment application forms which you'll be asked to fill in. When you're completing one of the forms like the Ford Motor Company's blank on this page, try to be careful and exact. After a few days of job hunting, application blanks may become a bore and a chore. You'll begin to wish they were never invented. But don't let them get you down. A neatly-done application blank often lands a job.

Here are a few suggestions to keep in mind when you're filling in a form. When you've read these tips, try filling in the Ford Motor Company's blank just for practice.

TIPS TO FOLLOW

1. *Be prepared.* Before you leave for the company's office, fill your fountain pen with black or dark blue ink. Take with you any notes about the dates of previous jobs, salaries, etc.

2. *Read the directions carefully before you do any writing.* If the application blank asks you to print, don't write in longhand.

3. *Word your answers carefully.* Think before you write—and when you write, write neatly. Be careful of your spelling. Answer all the questions accurately and honestly. You don't have much space for your answers and you'll want to give all the facts requested.

4. *Be specific as to the type of job you want.* Use specific words, such as "office boy," "typist," sales trainee," etc.

This, in brief, is the way to fill out an application blank successfully. Come prepared. Read the directions. Think before you write. Word your answers honestly and specifically.

Good luck on your job hunt!

SALARIED PERSONNEL APPLICATION FOR EMPLOYMENT

Ford Motor Company

INFORM INTERVIEWER BEFOREHAND IF YOU HAVE COMPLETED A FORD EMPLOYMENT APPLICATION WITHIN THE LAST TWELVE MONTHS. PLEASE PRINT ALL ENTRIES.

NAME (LAST, FIRST, INITIAL)	SOC. SEC. NO.	DATE OF BIRTH (MO., DAY, YR.)	PRESENT DATE

PRESENT ADDRESS (NO., STREET, CITY, ZONE, STATE) ☐ MARRIED ☐ SINGLE ☐ MALE ☐ FEMALE

HEIGHT	WEIGHT	U.S. CITIZEN	NO. DEPENDENTS	SELECT. SERV. STATUS	FORMER EMPLOYE	PHONE NO.
		☐ YES ☐ NO			☐ YES ☐ NO	

TYPE OF WORK DESIRED: 1. 2. DATE AVAILABLE

IF YOU ARE RELATED TO A FORD EMPLOYE, GIVE NAME, POSITION OR OCCUPATION, AND RELATIONSHIP

WHAT FOREIGN LANGUAGE DO YOU: READ SPEAK WRITE

GIVE ANY PHYSICAL CONDITION THAT WOULD PREVENT YOU FROM PASSING A NORMAL PHYSICAL EXAMINATION OR THAT SHOULD BE CONSIDERED IN YOUR PLACEMENT

EDUCATIONAL INSTITUTION	LOCATION (CITY, STATE)	ATTENDED FROM MO. YR.	ATTENDED TO MO. YR.	DIPLOMA, DEGREE OR CREDITS EARNED	SUBJECTS STUDIED MAJOR	SUBJECTS STUDIED MINOR
HIGH SCHOOL						
COLLEGE OR UNIVERSITY						
BUSINESS, TRADE OR EXTENSION SCHOOL						

LIST THE POSITIONS THAT BEST DESCRIBE YOUR MOST SIGNIFICANT ABILITIES, TRAINING AND EXPERIENCE (LAST POSITION FIRST)

1. NAME OF FIRM	DESCRIBE SIGNIFICANT WORK EXPERIENCES
ADDRESS OF FIRM	a.
TYPE OF BUSINESS	b.
POSITION TITLE	c.
MO. SALARY: STARTING / ENDING	d.
DATES EMPLOYED: FROM / TO	NO. OF EMPLS. SUPERVISED
REASON FOR LEAVING	

Carol was dressed neatly and simply. She arrived early, wore little makeup, maintained good posture, was instantly alert for questions.

Carol had a neatly typed resume to show me. It listed not only her name, address, previous jobs, and education, but also personal references.

Carol shook hands politely at the end of the interview. Next day she sent me a follow-up letter, in which she thanked me for granting the interview.

Personnel File

(CONFIDENTIAL)

Here's how YOU look to the personnel manager of a company when you apply for a job.

Which one of these applicants would you hire?

Photos posed by *Scholastic* employes Carol Scheuch and Manuel De Figueiredo; with Dr. C. Elwood Drake, Associate Director of Field Services for *Scholastic Magazines*.

Manuel walked in 15 minutes late. He wore a friendly smile, but didn't think the interview important enough for either a jacket or a tie.

When I asked Manuel what kind of work he had in mind, he merely shrugged his shoulders. "I can do anything," he told me. He just didn't know.

To conclude our talk, Manuel gave me a bone-crushing handshake. He patted me on the back like a long-lost buddy, telling me, "Thanks a lot, pal."

What's My Line?

How good a judge of personality are you? These nine young men and women today are well launched on their careers. We have a million-dollar businessman, a registered nurse, a salesman, farmer, radar engineer, oil engineer, Univac coder, drafting trainee, and railroad maintenance-of-way engineer. Match the career with the person. Answers on next page.

Ruth Simon

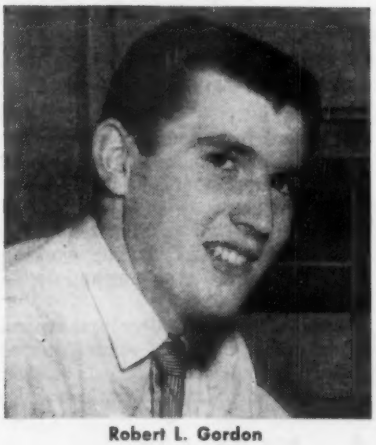
Alsey C. Parker, Jr.

Fred J. Somes, Jr.

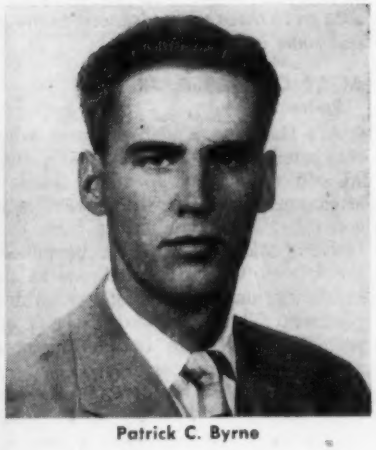
Clyde Dawson

Marilyn Mealey

Clarence C. Chappell, Jr.



Robert L. Gordon



Patrick C. Byrne

Peter A. Willis

What's My Line?

Answers to Quiz which appears on page 17

Here, listed alphabetically, are the names and occupations of the young men and women pictured on the preceding page. Score as follows: Four correct, average. Five to six correct, good. Seven to eight correct, excellent. Nine correct—we don't believe it!

PATRICK C. BYRNE
Salesman

Pat first became intrigued with selling at the age of 16, when he worked for a department store. He went to St. Ignatius H. S. in Cleveland, then on to Ohio State Univ., where he received a Bachelor of Science in 1950. After a term in the Air Force, he became a trainee for the Univac division of Remington Rand. Today he is a Univac sales representative in New York.

(Career outlook: Expanding, especially in retail sales. Men dominate wholesale sales careers, women the retail. Opportunities for both high school and college graduates. Pay varies widely.)

CLARENCE C. CHAPPELL, JR.
Farmer

At 21, Clarence has won the title of 1957 "Star Farmer of America," as chosen by the Future Farmers of America. The North Carolinian began his farming program in 1950, shortly after enrolling as a vocational agriculture student at the Perquimans County H. S. He started with five acres of corn, six beef cattle, four brood sows, 75% interest in 5 dairy cattle, and 50% interest in five acres of soybeans. Today he owns 60 acres of land, 62 Guernsey cattle, hogs, pigs, bees, heifers, bulls, etc. His net worth: about $72,000.

(Career outlook: There are fewer but larger farms, calling for more capital, equipment, and managerial skill. One out of eight U. S. workers employed in farm work, but many farm boys must look to related jobs for careers: conservation, forestry, technical assistance.)

CLYDE DAWSON
Petroleum Engineer

Shortly after graduating from Stanford Univ., Clyde went to work for the Socony Mobil Oil Company. His training was interrupted by a two-year tour of duty in Korea. Today he is a petroleum engineer supervisor, living with his wife and daughter in Anaco, Venezuela.

(Career outlook: Petroleum is a growing career field with more than 500,000 workers. Pay is higher than industrial average. Most rapid expansion is in technical fields—particularly chemists, chemical engineers, and technicians. Most skilled workers in oil refining start as laborers.)

ROBERT L. GORDON
Drafting Trainee

Bob has heard "steel" talk in his Coatesville, Pa., home since he was a child. Five members of the family worked for the Lukens Steel Company. When he graduated from Scott H. S. three years ago, Bob also joined Lukens. He is doing on-the-job training in the Plant Engineering Department. The steel industry, Bob finds, "offers tremendous opportunity for advancement, and with hard work and newly-acquired knowledge I feel I can eventually move toward the top."

(Career outlook: Draftsmanship is an expanding field. Learn in school or on-the-job. Requires aptitude for detail work and for visualizing objects. Of 125,000 employees, 7% are women. Chief openings are in construction and manufacturing.)

MARILYN MEALEY
Univac Coder

Last June, when Marilyn graduated from St. Hubert H. S., Philadelphia, she got a job as typist at Remington Rand's Univac Division. Two months later she became the first high school girl to train for "pseudo-coding," a new technique for automatic machines.

(Career outlook: Automation will be one of the booming fields of tomorrow. Certainly a high school diploma will be an absolute "must." Top jobs will probably go to those with advanced training and some college.)

ALSEY C. PARKER, JR.
Railroader

Al's Dad was a civil engineer who was keenly interested in railroads, and Al still remembers spending Sunday afternoons watching the streamliners zoom by. After graduating from the Univ. of Alabama in 1950, he joined the Atlantic Coast Line Railroad as an instrument man in the engineering department. There followed a series of promotions until he became maintenance-of-way engineer.

(Career outlook: Transportation has always been a major career field. Today railroading is not expanding as quickly as either the airlines or trucking. There are, however, about a million railroad workers today.)

RUTH SIMON
Nurse

As a little girl, Ruth liked to play nurse. She kept scrapbooks on medical developments. In high school and college she concentrated on chemistry and biology. After completing a three-year course at the Bellevue School of Nursing, she began work as a registered nurse. Even though she has two daughters, the continued shortage of nurses makes it possible for her to work evenings in New York City hospitals.

(Career outlook: Nursing profession is expanding. About 70,000 more are needed. Best pay is in public health nursing and in supervisory jobs. Many scholarships available. Write to Committee on Careers in Nursing, 2 Park Avenue, New York 16, N. Y.)

FRED J. SOMES, JR.
Businessman

After five years—at the age of 35—Fred has parlayed a little capital, unlimited imagination, and hard salesmanship into a $5,000,000 business. In 1947 he was an electrical engineering graduate fresh out of Michigan State. After working several years for contractors, Fred raised some money and bought a small electrical contracting firm. He changed its name to Motor City Electric Company. Starting as a one-man estimator, engineer, purchaser, and salesman, this young tycoon now has 300 people working for him.

(Career outlook: One's own business offers the greatest risks—and the greatest rewards. It's best to gain experience by working for someone else first. Don't try to start a business "on a shoestring." Some money is required to keep you going for awhile. Check your public library for books about specific businesses. Write to the U. S. Dept. of Commerce, Washington 25, D. C. for information on where to get pamphlets on small businesses.)

PETER A. WILLIS
Electronics Engineer

Pete's interest in engineering was stimulated by a curiosity about what makes things happen. It was not until college that Pete made up his mind about engineering. Following graduation from the Univ. of Illinois, he joined General Electric. Today he works in Syracuse, N. Y., developing and designing radar equipment.

(Career outlook: Engineering is expanding rapidly. Big need exists for electrical, aeronautical, chemical, mechanical, and metallurgical engineers. Experienced engineers average $8,000. Many earn much more.)

Facts on File

If you're looking for accurate information on vocations, this is "must" reading for you

By WILLIAM FAVEL

MOST VALUABLE career book today is the 1957 edition of *Occupational Outlook Handbook, Bulletin No. 1215,* compiled by the Bureau of Labor Statistics (Superintendent of Documents, U. S. Govt. Printing Office, Washington 25; $4). It contains up-to-date information on more than 500 careers.

Ask your librarian for it and for recent pamphlets, books, and magazine articles on special careers that interest you. Your library may have many of the booklets listed in this article. Also, ask for: (1) the career field books of Vocational Guidance Manuals, Inc.; (2) *Chronicle Occupational Briefs* (pub. in Moravia, N. Y.); and (3) career materials of B'nai B'rith Vocational Service Bur., Washington 5, D. C. Many colleges and universities also publish *free* career booklets.

Your local branch of the State Employment Service has a number of excellent career booklets free, as well as a free advisory service and vocational testing program for high school students. Local industries, insurance firms, and other companies often have free career booklets, too.

The companies and agencies listed on the pages which follow issue *free* or *low-cost* (not more than 25¢) career booklets. Most titles listed are free unless otherwise indicated.

Many firms prefer that the letter requesting a booklet be written on school stationery and be signed by a teacher. Starred (*) booklets are available only to teachers. Of course, a carefully worded and well-written letter could be written by the class secretary for the teacher to sign. Often, firms prefer that a school request one booklet first to see if it would be useful in larger quantities.

We suggest that each student make a list of pamphlets that he is interested in. Have the class appoint one or more secretaries to write for the pamphlets. Each letter should be signed by the

teacher to get the best results. *Helpful:* Say the listing came from *Scholastic Magazines.*

The U. S. Government has scores of career pamphlets for sale. Many of them are priced as low as five cents. For a free listing of these booklets, write to Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

This list of career materials is the result of requests for materials sent to hundreds of firms and organizations. Even in the time needed to collect and publish this listing, there may be some changes in availability of materials. We hope that your inquiries bring you the materials you need and that you'll continue to consider this a valuable section of our career issue.

WHERE TO GET CAREER PAMPHLETS

Accountant: American Institute of Accountants, 270 Madison Ave., N. Y. 16; N. Y. Life Insurance Co., Pub. Rel. Dept., 51 Madison Ave., N. Y. 10; Controllers Institute of America, 2 Park Ave, N. Y. 16; Nat'l Assn. & Council of Bus. Schools (15¢), 601 135th St., N. W., Washington 5.

Actuary: Society of Actuaries, 208 S. LaSalle St., Chicago 4.

Advertising: Boston U., School and College Rel., 705 Commonwealth Ave., Boston 15; Adver. Fed. of Amer., 250 W. 57th St., N. Y. 19 (10¢); Amer. Assn. of Adver. Agencies, 420 Lexington, N. Y.

Agriculture: N. Y. Life Insurance Co., Pub. Rel. Dept., 51 Madison Ave., N. Y. 10; Amer. Soc. of Agric. Engineers, P. O. Box 229, St. Joseph, Mich.; U. S. Dept. of Agric., Washington 25; Guidance Centre, U. of Toronto, 371 Bloor St., W., Toronto 5, Ontario, Canada; College of Agric., Rutgers U., New Brunswick, N. J.

Airline workers: Pub. Rel., Air Transport Assn., 1107 16th St., N. W., Washington.

Aircraft industries: Aircraft Industries Assn., Shoreham Bldg., 15th and H Sts., N. W., Washington.

Apprenticeship training: Allis-Chalmers Employ. Office, Trng. Sect., S. 66 St., Milwaukee, Wis.

Architecture: Amer. Inst. of Architects, Dept. of Educ. & Research, 1735 N. Y. Ave., N. W., Washington 6, D. C.; N. Y. Life Insurance Co., Pub. Rel. Dept., 51 Madison Ave., N. Y. 10; Amer. Society of Indust. Designers, 15 E. 48th St., N. Y.

Armed Services: Dept. of Army, Washington 25; School Rel. Section, Navy Annex, Washington 25; Dept. of Air Force, Washington 25; U. S. Dept. of Defense, Washington 25; N. Y. Life Insurance Co., Pub. Rel., 51 Madison Ave., N. Y.; also inquire at your nearest recruiting office. Information, National Guard Bur., Pentagon, Washington.

Atomic energy careers: Div. of Org. & Personnel*, Atomic Energy Comm., 1901 Constitution Ave., Washington, D. C.

Aviation: United Air Lines, 80 E. 42nd St., N. Y. 17; U. S. Dept. of Labor, Bur. of Labor Statistics (20¢), Washington 25.

Banking: N. Y. Life Insurance Co., Pub. Rel. Dept., 51 Madison Ave., N. Y. 10; Amer. Banking Assn., 12 E. 36th St., N. Y.

Beauty operator: Nat'l Assn. of Cosmetology Schools, 3839 White Plains Rd., New York 67.

Bricklayer: Mason Rel. Dept., Clay Products Institute, 1520 18th St., N. W., Washington 6.

Building trades: A. F. L. & C. I. O., Bldg. & Construction Trades Dept.*, 815 16th St., N. W., Washington.

Chemist: Dir. of Ed., Manuf. Chemists' Assn., Inc., 1625 Eye St., N. W., Washington 6; Mich. College of Mining & Tech.*, Houghton, Mich.; Amer. Chemical Society, 1155 16th St., N. W., Washington 6; N. Y. Life Insurance, Pub. Rel., 51 Madison Ave., N. Y.

Civil Service: U. S. Civil Service Commission, Washington 25; Guidance Centre, U. of Toronto, 371 Bloor St., W., Toronto 5, Canada; N. Y. Life Insurance Co., Pub. Rel. Dept., 51 Madison Ave., N. Y. 10.

Clerical: National Secretaries Assn.*, 222 W. 11th St., Kansas City, Mo.; Royal Typewriter Co., Div. of Royal McBee Corp., 2 Park Ave., N. Y. 16; Inst. of Life Insurance (15¢), 488 Madison Ave., N. Y. 22; Westbrook Junior College, Portland 5, Me.; U. S. Civil Service Commission*, Pub. Infor. Office, Washington 25; Nat'l Assn. & Council of Bus. Schools (15¢), 601 13th St., N. W., Washington 5; Gen. Motors Corp., GM Tech. Center, Box 177, North End Station, Detroit 2; Dept. of Infor., International Bus. Machines Corp. (IBM), 590 Madison Ave., N. Y. 22; United Bus. Ed. Assn., 1201 16th St., N. W., Washington.

Coal mining industry: Ed. Dir., Nat'l Coal Assn., Southern Bldg., Washington 5, D. C.

Commercial art: Inst. of Design, Inst. of Tech., Tech. Center, Chicago 16; Dean of Admissions, Tex. State College for Women, Drawer A, TSCW Station, Denton, Tex.; Nat'l Society of Art Directors, 115 E. 40th St., New York.

Dentistry: Dir. of College Rel., Mich. College of Mining & Tech.*, Houghton, Mich.; Amer. Dental Assistants Assn., Mary L. Martin, 410 First Nat'l Bank Bldg., La Porte, Ind.; *(Hygienists)* Amer. Dental Hygienists Assn., 1735 Eye St., N. W., Washington 6; *(Dentists)* N. Y. Life Insur. Co., 51 Madison Ave., N. Y. 10; Amer. Dental Assn., 222 E. Superior St., Chicago 11.

Designers, industrial: Amer. Soc. of Indus. Designers (25¢), 48 E. 49th St., N. Y. 17.

Draftsmen: Amer. Inst. of Architects, 1735 New York Ave., N. W., Washington.

Electric light and power industry: Intern'l Edison Birthday Committee, 8 W. 40th St., New York (25¢).

Electronics: RCA Institute, Inc., School of TV & Electronic Tech., 350 W. 4th St., N. Y. 14; U. S. Naval Personnel Bur., Washington 25.

Engineering: Nat'l Society of Professional Engineers, 2029 K St., N. W., Washington 6; Amer. Soc. of Mech. Engineers, 29 West 39th St., N. Y. 18; Bell Aircraft Corp., P. O. Box 1, Buffalo 5, N. Y.; Amer. Society of Civil Engineers, 33 West 39th St., N. Y. 18; Engineers' Council for Professional Devel. (25¢), 29 W. 39th St., N. Y. 18; N. Y. Life Insurance Co., 51 Madison Ave., N. Y. 10; Gen. Motors Corp., GM Tech. Center, Box 177, N. End Station, Detroit 2; IBM Corp., Dept. of Infor., 590 Madison Ave., N. Y. 22; Purdue U., Office Univ. Editor, Rm. 417, Engineering Admin. Bldg., Lafayette, Ind.; Dir. of College Rel., Michigan College of Mining & Tech.*, Houghton, Mich.; *(Civil)* Ill. Inst. of Tech., Tech. Center, Chicago 16; Amer. Soc. of Civil Engineers*, 33 W. 39th St., N. Y.; *(Electronic)* N. Y. Life Insurance Co., 51 Madison Ave., N. Y. 10; Amer. Institute of Mining and Tech. Engineers, 29 W. 39th St., N. Y. 18; Amer. Institute of Ind. Engineers, 145 N. High St., Columbus 15, Ohio; *(H. S. study in engineering)* Dir. of College Rel., Mich. College of Mining & Tech.*, Houghton, Mich.; *(Mineral)* Colorado School of Mines, Golden, Colo.; *(Engineering physics)* Dir. of Col. Rel., Mich. College of Mining & Tech.*, Houghton, Mich.; Engineering Manpower Comm., 29 W. 39th St., N. Y. 18; *(Women in Engineering)* U. S. Dept. of Labor, Women's Bur., Washington 25, D. C.; Distribution Services, U. S. Dept. of Agric.*, Wash.

Factory workers (auto): U. S. Dept. of Labor, Bur. of Labor Statistics, Washington 25, D. C. *(Technician, craftsman)* Ed. Dept., N.A.M., 2 E. 48th St., N. Y.

Florist: Rittners School of Floral Design, 428 Newbury St., Boston 15.

Food: (Administration) Rochester Inst. of Tech., 65 Plymouth Ave., Rochester 8, N. Y.; (*Engineering*) Dept. of Food Engineering, Ill. Inst. of Tech., Tech. Center, Chicago 16; Culinary Inst. of Amer., 393 Prospect St., New Haven 11, Conn.; Educ. Dir., Nat'l Restaurant Assn., 8 S. Mich. Ave., Chicago 3; Nat'l Assn. of Food Chains, 726 Jackson Place, N. W., Washington 6; Amer. Dietetic Assn., 620 N. Mich. Ave., Chicago 11. (*Food retailing*) Pub. Rel. N. Y. Life Insurance Co., 51 Madison Ave., N. Y. 10.

Forestry: Nat'l Assn. of Manufrs., 2 E. 48th St., N. Y. 17; Mich. College of Mining & Tech.*, Houghton, Mich.; Pub. & News Serv., Montana State U., Missoula, Mont.; Soc. of Amer. Foresters (25¢), 425 Mills Bldg., Washington 6; U. S. Dept. of Agric.*, Washington 25; U. S. Dept. of Labor, Bur. of Labor Statistics, Washington 25.

Forge shop jobs: Drop Forge Assn., 419 S. Walnut St., Lansing 33, Mich.

Geologist: Amer. Geological Institute, 2101 Constitution Ave., N. W., Washington, D. C.

Home economics: Dean of Admissions, Registrar, Texas State Col. for Women, Drawer A, TSCW Station, Denton, Texas; Westbrook Jr. College, Portland 5, Me.; Amer. Home Economics Assn., 1600 20th St., N. W., Washington 9, New York Life Insurance Co., 51 Madison Ave., N. Y. 10; Ill. Institute of Tech., Tech. Center, Chicago 16; Amer. Dietetic Ass'n.*, 620 N. Michigan Ave., Chicago.

Hotel occupations: Amer. Hotel Assn., 221 W. 57th St., N. Y.

Insurance: Harold K. Philips, Assn. of

Casualty & Surety Co., 60 John St., N. Y. 38; Institute of Life Insurance (1 copy free to teachers), 488 Madison Ave., N. Y. 22; Life Insurance Agency Management Assn., 855 Asylum Ave., Hartford, Conn.

Interior decorator: Registrar, Rochester Inst. of Tech., 65 Plymouth Ave., S., Rochester 8, N. Y.

Journalism: N. Y. Life Insurance Co., Pub. Rel. Dept., 51 Madison Ave., N. Y. 10; Westbrook Jr. Col., Portland 5, Me.; Dir., TSCW Journalism, Box 3866, TSCW Station, Denton, Texas; (*Technical writing*) Simmons College, 300 Fenway, Boston 15; Amer. Newspaper Pub. Assn., 370 Lexington Ave., N. Y.

Law: School of Law, Montana State U., Missoula, Mont.; N. Y. Life Insurance Co., Pub. Rel. Dept., 51 Madison Ave., N. Y. 10; Amer. Bar Assn., 1155 E. 60th St., Chicago 37.

Library science: School of Library Science, Box 2905, TSCW Station, Denton, Tex.; Spec. Libraries Assn.*, 31 E. 10th St., N. Y.; American Library Assn., 50 E. Huron St., Chicago 11; (*Medical*) Amer. Assn. of Med. Record Lib., 510 N. Dearborn St., Chicago 10; Westbrook Jr. College, Portland 5, Me.; N. Y. Life Insurance Co., Pub. Rel., 51 Madison Ave., N. Y.

*Machine occupations:** Inter. Assn. of Machinists, 1300 Connecticut Ave., Washington.

Marketing: Ed. Dept., N.A.M., 2 E. 48th St., N. Y.

Mechanics: Pub. Rel. Dept., IBM, 590 Madison Ave., N. Y. 22; U. S. Dept. of Labor, Bur. of Labor Statistics, Washington 25; Nat'l Assn. of Manuf., 2 E. 48th St., N. Y. 17; Nat'l Auto Dealers Assn., 2000 K St., N. W., Washington.

Medicine: (*Anesthetist*) Amer. Assn. of Nurse Anesthetists, 116 S. Mich. Ave., Chicago 3; (*Chiropractic*) Nat'l Chiropractic Assn., Dept. of Educ., Nat'l Bldg., Webster City, Iowa; (*Optometry*) Amer. Optometric Assn., 4030 Chouteau Ave., St. Louis 10, Mo.; (*Army nursing*) Surgeon Gen., Dept. of Army, Washington 25; (*Pub. health nursing*) School of Nursing, Simmons College, Boston 15; N. Y. Life Insurance Co., 51 Madison Ave., N. Y. 10; Committee on Careers in Nursing*, 2 Park Ave., N. Y. 16; (*Nursing, psychiatric*) Nat'l Inst. of Mental Health, Bethesda 14, Md.; (*Psychology*) U. S. Dept. of Health, Educ., Welfare, Guid. and Stud. Personnel Sect., Washington 25; (*Social worker, psychiatric*) National Inst. of Mental Health, Bethesda 14, Md.; (*Occupational and physical therapy*) Westbrook Jr. College, Portland 5, Me.; Amer. Occup. Therapy Assn., 250 W. 57th St., N. Y.; U. S. Dept. of Labor, Women's Bur., Washington 25; (*Physician*) Council on Med. Educ. and Hospitals, Amer. Med. Assn., 535 N. Dearborn St., Chicago 10; N. Y. Life Insurance Co., Pub. Rel. Dept., 51 Madison Ave., N. Y. 10; (*Physical Therapy*) Physical Therapy Assn.*, 1790 Broadway, N. Y. 19; (*Technologist*) N. Y. Life Insurance Co., Pub. Rel., 51 Madison Ave., N. Y. (*Also health careers in gen.*) Nat'l Health Council, GPO Box 1400, N. Y. 1; (*Veterinarian*) Amer. Veterinary Med. Assn., 600 S. Mich. Ave., Chicago 5; (*X-ray technicians*) Westbrook Jr. College, Portland 5, Me.; Amer. Registry of X-ray Technicians, Metropolitan Bldg., Minneapolis 1, Minn.

Mineral industry: Director of College Rel., Mich. College of Mining & Tech.*, Houghton, Mich.; N. Y. Life Insurance Co.; 51 Madison Ave., N. Y. 10; Colo. School of Mines, Golden, Colo.

Modeling: Barbizon Studio of Fashion Modeling (25¢), 576 Fifth Ave., N. Y. 36.

Mortician: Nat'l Selected Morticians, 1616 Central St., Evanston, Ill.; Nat'l Funeral Directors Assn., (15¢), 135 W. Wells St., Milwaukee 3, Wisc.

Music careers: Secretary, Music Teachers Nat'l Assn. (5¢), 775 Brooklyn Ave., Baldwin, N. Y.

Nursing: See *Medicine*

Nurseryman: Nat'l Landscape Nurserymen's Assn., Exec. Secy., Mounted Route 2, Davenport, Iowa.

Personnel work: N. Y. Life Insurance Co., 51 Madison Ave., N. Y. 10; Pub. Personnel Assn.*, 1313 E. 60th St., Chicago.

Petroleum workers: Amer. Petroleum Inst., 50 W. 50th St., N. Y. 20.

Pharmacist: U. S. Dept. of Labor, Bur. of Labor Statistics, Washington 25; Amer. Pharmaceutical Assn., 2215 Constitution Ave., N. W., Washington 7; McKesson & Robbins, Personnel Dept., 155 E. 44th St., N. Y. 17; N. Y. Life Insurance Co., 51 Madison Ave., N. Y. 10.

Photographer: Rochester Inst. of Tech., 65 Plymouth Ave., S., Rochester 8, N. Y.

Physicist: Mich. College of Mining & Tech.*, Houghton, Mich.; Amer. Institute of Physics, 57 E. 55th St., N. Y.

Plastics workers: Soc. of Plastics Indust., 250 Park Ave., N. Y.

Power generation: Pub. Rel., Allis-Chalmers Manufacturing Co., Box 512, Milwaukee, Minn.

Printing workers: Lithographic Tech. Foundation, 131 E. 39th St., N. Y. 16; Amer. Newspaper Pub. Assn.*, 370 Lexington Ave., N. Y.; (*Linotype operator*) Empire Linotype School, 206 E. 19th St., N. Y. 3; N. Y. Life Insurance Co., 51 Madison Ave., N. Y. 10; U. S. Dept. of Labor, Bur. of Labor Statistics, Washington 25.

Psychologist: (*See also Medicine*) Amer. Psych. Assn., 1333 16th St., N. W., Washington 6.

Railroad workers: Atchison, Topeka & Sante Fe, Pub. Rel. Dept., 80 E. Jackson Blvd., Chicago 4; Assn. of Amer. Railroads, Pub. Rel. Dept., Transportation Bldg., Washington 6.

Recreation workers: Nat'l Recreation Assn., 8 W. 8th St., N. Y.

Restaurant workers: Nat'l Restaurant Assn., 1530 N. Lake Shore Drive, Chicago.

Sales and distribution workers: Ed. Dept., Nat'l Assn. of Manuf., 2 E. 48th St., N. Y. 17; Nat'l Cash Register Co., Merchants' Serv. Dept., Main & K Sts., Dayton 9, Ohio; Westbrook Jr. College, Portland 5, Me.; Detroit Retail Merchants Assn., 320 W. Lafayette St., Detroit 26, Mich.; Prince School of Retailing, 49 Commonwealth Ave., Boston 16, Mass.; N. Y. Life Insurance Co., Pub. Rel. Dept., 51 Madison Ave., N. Y. 10; F. W. Woolworth Co., Pers. Director, 233 Broadway, N. Y.; Nat'l Sales Executives, 136 E. 57 St., N. Y. 22 for pamphlet "Your Career in Selling" (25¢ in single copies).

Science careers: Nat'l Assn. of Manuf., 2 E. 48th St., N. Y. 20, N. Y.; (*Atomic*) N. Y. Life Insurance Co., 51 Madison Ave., N. Y. 10; U. S. Civil Service Commission, Washington 25; (*Chemistry*) Amer. Chem. Soc. (5¢ to 25¢), 1155 16th St., N. W., Washington 6; N. Y. Life Insurance Co., 51 Madison Ave., N. Y. 10; (*Geophysics*) Dir. of College Rel., Mich. College of Mining & Tech.*, Houghton, Mich.; (*Meteorology*) Amer. Meteorological Soc., 3 Joy St., Boston 8; Sun Oil Co., 1608 Walnut St., Philadelphia 3, Pa.

Small businesses: N. Y. Life Insurance Co., 51 Madison Ave., N. Y. 10.

Sports announcer: Personnel Serv., Peapack, N. Y. (25¢).

Social workers: Council on Social Work Educ. (25¢), 345 E. 46th St., N. Y. 17; Family Service Assn. of Amer. (3¢), 192 Lexington Ave., N. Y. 16; Amer. Assn., Med. Social Workers, 1700 Eye St., N. W., Washington 6, D. C.

Statistician: U. S. Dept. of Labor (20¢), Bur. of Labor Statistics, Washington 25.

Teaching: Nat'l Assn. of Manuf., 2 E. 48th St., N. Y. 17; Westbrook Jr. College, Portland 5, Me.; Gen. Electric, Pub. Rel. Serv. Div., Schenectady, N. Y.; School of Ed., Montana State U., Missoula, Mont.; N. Y. Life Insurance Co., Pub. Rel. Dept., 51 Madison Ave., N. Y. 10; (*Physical educ.*) Amer. Assn. for Health, Phys. Ed., & Recreation, 1201 16th St., N. W., Washington 6; Office of Education, Washington; N. E. A., 1201 16th St., N. W., Washington.

Trades (skilled): Pub. Branch, Bur. of Apprenticeship & Trng. (20¢), U. S. Dept. of Labor, Washington 25; Pub. Rel. Dept., Allis-Chalmers Mfg. Co., Box 512, Milwaukee 1, Wis.; Ed. Rel. Sect., Gen. Motors Corp.*, GM Tech. Center, P. O. Box 177, N. End Station, Detroit 2.

Traffic manager: N. Y. Life Insurance Co., Pub. Rel., 51 Madison Ave., N. Y.

Trucking workers: Amer. Trucking Assn., 1424 16th St., N. W., Washington 6.

GENERAL GUIDANCE MATERIALS

Educational guidance: (*Scholarships*) Bibliography (15¢), U. S. Gov't Printing Office, Washington 25, D. C. (*You didn't go to college*) Pub. Affairs Committee (25¢), 22 E. 38th St., N. Y.; (*College costs*) Bulletin 1957, No. 9 (Office of Educ.), U. S. Gov't Printing Office, Washington (45¢); N. Y. Life Insur. Co., Pub. Rel. 51 Madison Ave., N. Y.; (*Choosing a career*) Ed. Dept., N.A.M., 2 E. 48th St., N. Y.; (*Business school directory*) Nat'l Assn. & Council of Bus. Schools, 601 13th St., N. W., Washington; (*Why study?*) Gen. Electric Co., 1 River Rd., Schenectady 5, N. Y.

Vocational guidance: (*What industry looks for*) Pub. Rel., Eastman Kodak Co., Rochester 4, N. Y.; (*Resume writing*) *Changing Times* Reprint, 1729 H. St., N. W., Washington (10¢); (*Job interviews*) N. Y. Univ.* Office of Information, Washington Sq., N. Y.

Read real, honest-to-goodness "True Confessions" stories when

Night School Tells Day School

By EDGAR LOGAN

"A little knowledge is a dangerous thing" warns the U.S. Dept. of Labor. Its advice: "Finish school! Get your diploma!"

WHY DO SO many boys and girls quit school before graduating? It is a shocking fact that about 40 per cent of all high school students—two of every five—leave school without a high school diploma. They leave school before they can learn how to study, to support themselves, or to discharge the duties of responsible citizenship.

What is the outlook for non-graduates? Mighty slim. There are few jobs for the person without a diploma. Both business and industry are demanding high school diplomas of nearly all job applicants.

High school graduates earn more and have better opportunities for advancement. Young people who quit school are usually offered jobs no one else wants. Dropouts earn less during their working years. They often suffer periods of unemployment. Their lives are apt to be plagued with insecurity, frustration at not being able to advance, and dissatisfaction with monotonous work. Many boys who find school difficult think they can solve their problems by quitting school and joining the Armed Forces. But the armed services insist that boys need the basic high school education on which to build the many specialized and technical skills required for our country's defense.

Every year all these facts are hammered home by principals, counselors, teachers, and business leaders. And yet, each year, thousands of youngsters continue to drop out of school. Why?

It may be simply because many scorn the advice of anyone in authority. They feel that adults want to keep them from growing up and competing on the labor market.

A few years ago, I spent a half-hour telling the hard facts of life to an 11th grade pupil who insisted on dropping out. Finally he said to me: "Mr. Logan, you haven't convinced me. You're a teacher. You've spent your whole life going to school. What do you know about the outside world? Of course, all you teachers try to keep us in school—that's what you're paid for. If you teachers had your way, we would be in school until we were 25! I'm not saying you don't mean well, but I still think a big, strong guy like me can earn a good living in the outside world."

I failed to keep him from dropping out. But out of my failure came an idea which has since served me well in discouraging potential dropouts. Now I back up my arguments with letters written especially for my day school students by members of my business English classes in evening school. These "Night School Tells Day School" letters are written by students from 19 to 72 years of age. They have done much to convince even my most indifferent day school pupils that the world of business and industry requires a diploma. Nearly 80 per cent of my night school students are dropouts who came back to high school because they could not advance without a high school diploma. Here are typical letters I have in my files:

Dear Day School Student,

Three years ago I quit high school. I thought I knew all the answers. Nothing my teachers or parents said could convince me that I should stay in school. I happily left school, thinking all my troubles were behind me. Now I want a better job. I have a girl, I'm buying the ring. But the boss won't give me a raise because I can't write good enough, and I don't talk good enough to go out and sell some of our highly educated customers. So here I am after already putting in a hard day's work—back at school trying to make up for the things I missed by quitting. If I had stayed in school and earned my diploma, I would be in line for a promotion right now. So take the advice of a guy who really knows—a guy who learned everything the hard way—STAY IN SCHOOL! Take all the English courses you can. You'll never get a high class job if you don't learn how to handle your own language!

Dear Undergraduate,

. . . So you quit school. You get a good job and even make enough so you are able to buy a bond now and then. You think you're all set. But you would like to have enough money for marriage, a home, a new model car, and dozens of other things that seem important when you're young. So you begin to look at the qualifications you'll have to have in order to step into a job higher up on the rungs of the success ladder. WHAM! It hits you right between the eyes for the first time. Only way you can move ahead is to have better educational qualifications than the other fellows you are competing with. And you—what a fool—quit school because you thought further training was something for the birds!

You students won't always listen to us well-meaning but "preachy" teachers. But take the advice of our "true confessions" letter-writers who have "been through the mill" and who have learned from their own bitter experiences just how important school really is.

Edgar Logan teaches at Denby H. S., Detroit, Mich.

OPPORTUNITIES FOR YOU in the AGE OF SPACE

UNITED STATES AIR FORCE

THE NEW AGE OF SPACE

The conquest of space has already begun. "New worlds to conquer" is a phrase that takes on greater meaning as man prepares to pioneer the vast sea of space that surrounds our planet. You, as a teenager, will be privileged to take part in this great adventure into the unkown. You are as much a part of the Age of Space as any of the rockets and missiles and other incredible inventions about which you have been reading. You will have the opportunity to work with the machines and equipment that man is developing for the titanic thrust into space.

THE GREAT UNKNOWN

Ninety-nine per cent of the earth's atmosphere lies within 20 miles of the surface of our planet. Beyond this blanket of oxygen and other life-giving elements lies the great unknown called "space."

Scientists tell us that travel to the moon will be possible in the not too far future. The moon is some 240,000 miles away. Beyond the moon is Mars—some 35,000,000 miles from earth. Man has set his sights on round-trip travel to the moon and Mars, and to planets beyond—travel which could conceivably take place within the span of your own lifetime!

At first, only animals will be sent aloft in space vehicles. From these experiments, our scientists will learn how man will react under conditions of travel in outer space. Some of these space ships will be fitted with television transmitters that will send back pictures of huge portions of the earth itself, as well as pictures of other planets. These pictures will help in weather forecasting, map-making, and similar scientific activities.

To accomplish these things, we will need all the inventive genius and technological know-how that can be summoned. Much of this work will be done by scientists, engineers and technicians who, like yourself, are now in school, planning for their future education and careers. Airmen, of course, will lead the way in testing and developing the equipment and machines for man's conquest of space.

The first human being to zoom into outer space will be wired so that scientists back on earth can study what is happening to him. This information will be used, among other ways, to help build a "space station" about 1,000 miles above the earth. It is from this station, it is believed by present-day experts, that man will make his first big leap to the moon. This way-station will be used as a great supply depot from which rocket pilots will penetrate deeply beyond even the moon.

No one is quite sure what is to be found on the moon. Today's space scientists plan to use the moon as another "way station" to far distant places —so that the moon, too, may become another great supply depot for the materials needed for man's far-ranging trips into the universe.

Some scientists believe that enormous space ships—perhaps as large as ten miles across—will hurl man to stars that are too distant for today's most powerful telescopes to see. In terms of time, these stars are several lifetimes away from earth.

500-YEAR TRIPS

Another prediction is that whole families will take space trips together. Children, it is said, will be born, grow up, and spend their entire lives on interplanetary "cruisers." It may take several generations of one family, traveling constantly at the speed of light, even, to make one of these round-trips. Why? Because of the vast areas of space and time with which the people of the future will be dealing constantly.

When the ship returns to earth, its occupants will never have seen this planet before—but they will know all about it because their ancestors, who began the journey, will have taught them about it.

If journeys like these seem beyond the realm of possibility, remember how far man has progressed since the days of the cave, not too long ago, as time is reckoned by geologists. To travel across the American continent in three hours would have seemed as impossible to cave men as travel across the universe now seems to us—yet an Air Force jet plane accomplished this feat.

You can become a pioneer in the new Age of Space. You can find adventure and challenge working in frontiers of science, engineering, and flight. Exciting careers in jet propulsion, rocketry, electronics, and similar fields are open to you through the United States Air Force.

Think about this as you read the following pages. Remember that the future belongs to those who *look* to the future. The time to start planning your career in the space age is *now*, while you are still in school. The courses you choose, the studying you do—these and many other factors will determine whether or not you will be qualified to take your place alongside the dedicated men and women of the United States Air Force.

OPPORTUNITIES UNLIMITED

When you think of a career in aviation, you probably think of becoming a pilot or a stewardess. True, these are expanding career fields. But most airline workers have ground jobs. More than one-third of them are skilled mechanics

Most of today's aviation workers are in the shops and factories making and assembling airplane parts. This work requires thousands of engineers, mechanics, technicians, and skilled assemblers. The industry is expanding. Working conditions and pay are well above average.

Many of the workers for the aviation industry and for the commercial air lines obtained their skills through the facilities of the U. S. Air Force.

Pioneering in space travel, the Air Force is opening a vast new field of exciting occupations for the men of the Age of Space. Many of these men will be trained in the scores of Air Force schools.

Your training in the Air Force is a combination of learning to be a specialist and of learning how to work as a member of a team—and this training can help you wherever your future may lie.

Remember: *The future belongs to the Airman!* Your skill plus sound Air Force training spells "Open Sesame" for you in the new Age of Space. You have big opportunities ahead of you. You can become a technician in rocketry, jet propulsion, electronics, or another of a score of allied fields. You can have a career near your own home or a job that "takes you places."

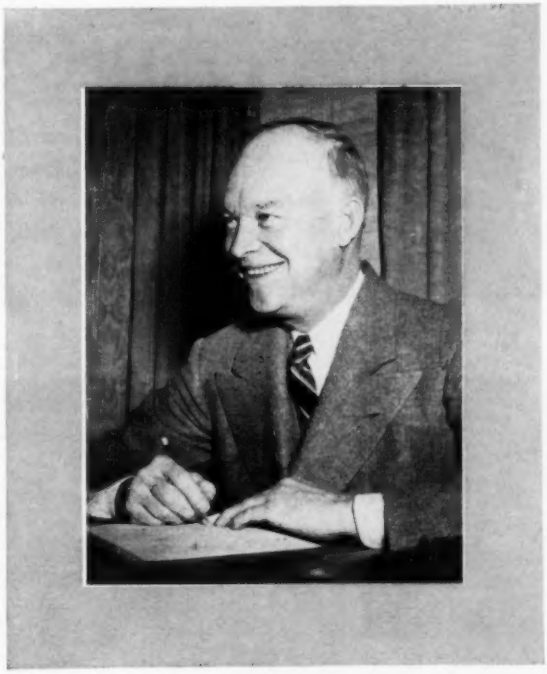
But first you should complete your education. Today's complex machines and equipment require skills that were not dreamed of, a few short years ago. It is no exaggeration to say that an Airman is no better than his education—because you cannot even begin to understand your duties unless you have been thoroughly grounded, first, in the principles of mathematics, science, language, and other subjects.

Adv.

GRADUATE FIRST

Your chance to start in a good beginning job and climb the ladder to more challenging jobs will depend usually on your educational background as well as on your abilities. This fact applies to your chances in both the Air Force and industry.

Study these messages on the importance of education, given to you by these important personalities in American public life.



"Each young American owes it to himself, and to his country, to prepare to meet the demands and opportunities of the future. Toward the achievement of this goal, education and training are essential, our schools provide the powers of tomorrow.

I urge every girl and boy in the United States to continue as students in school until they have developed their God-given capacities to the full. Only in this way can they hope to make their finest contribution to the strength of the Nation and reach the fulfillment of their own life purposes."

Dwight D. Eisenhower,
President of the United States

DR. THEODORE VON KARMAN

Chairman Emeritus
Scientific Advisory Board
Department of the Air Force

"Today's Air Force defenses are based on scientific fundamentals, and perfected through research. Science develops, industry produces, but, in the final analysis, it is the technically-trained young man upon whom the Air Force depends to maintain its combat efficiency. Men such as these will play an important part in our nation's future."

JOHN W. STUDEBAKER

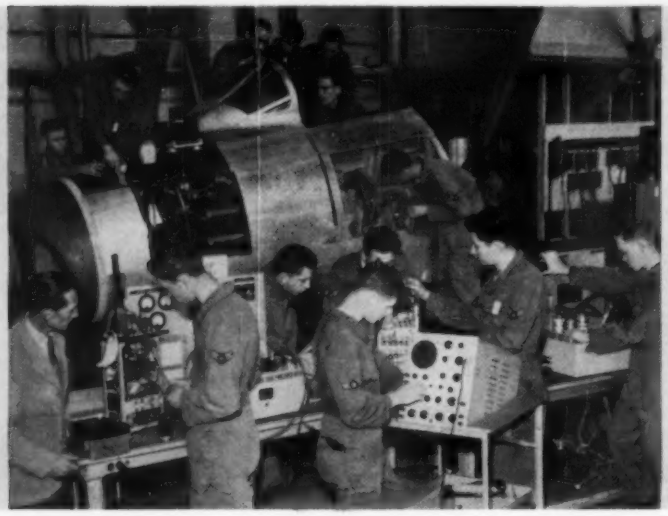
former U. S. Commissioner of Education

"Your school years are the big years in your growth in body, mind and spirit. Take full advantage of your school time to develop your philosophy of life, your personality, and your interests and skills. What you are when you finish school is pretty much the way you'll be all your life. School is your big job right now. Take full advantage of your opportunities in school."

Adv.

A FLYING START

"Were you in the Air Force?" job interviewers ask youthful job applicants time after time. Why do they ask this question? Why are employers eager to hire mechanics and other technicians who have been trained by the Air Force? Is it because the Air Force has fine teachers and the latest equipment and shops in their schools?



The answer is, "YES!" The Air Force offers apprenticeship ("earn-while-you-learn") training in scores of technical and other fields to those men who show marked aptitudes for such training. These special courses are supplemented by on-the-job training, under the supervision of experts, and by self-study courses.

Many of the training programs call for men with marked manual dexterity and with mechanical ability. Normal vision usually is important. A few training programs require men with somewhat more than average brawn.

Thus, the men who complete these courses are picked men who have highly valuable technical training and job experience. Most of the more qualified graduates become career men in the Air Force, challenged by being able to pioneer in the new Age of Space.

(Of course, the Air Force can use men and women with other skills and abilities. But the big need in both the Air Force and in industry is for *technicians* and *mechanics.*)

On the following pages, you can read about the work of technicians who are in greatest demand. If you're interested in the work of any one of these specialists, be sure to take the suggested high school courses for this work and try to get a part-time job in this field. Then you will be better prepared when you enter the Air Force.

The Air Force, like any large organization, requires a large staff of clerical workers—clerks, stenographers, bookkeepers, accountants, auditors, and other office-machine operators. The Air Force offers special training courses in this work to help those who need additional training.

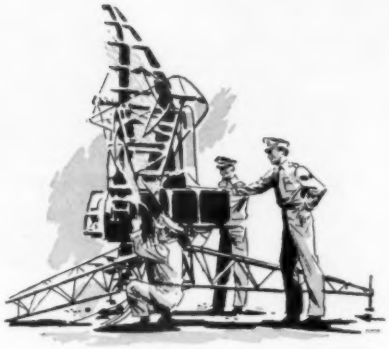
WOMEN IN THE AIR FORCE

Women's ability to perform many military jobs formerly assigned to men is well recognized throughout the Air Force. Women (WAF) have become a permanent part of the USAF.

The wide scope of assignments available to women is shown by the fact that 34 of the 43 Air Force enlisted career fields are available to women. Consequently, women hold many important and high technical positions.

Women use radio to give directions from control towers at air bases. They work side by side with men in such career fields as medical, dental, administration, personnel, communication, weather, photography, and aircraft control and warning—to mention only a few.

Women are eligible for training at many of the Air Force's technical training schools.



RADIO AND RADAR SYSTEMS

Have you thought of a career in radio-radar work? This field is expanding rapidly and there are big opportunities for radio-minded young men and women in the U. S. Air Force. Both ground and air radio and radar are used widely in the Air Force.

Special Air Force training leads to such jobs as *aircraft radio repairman, aircraft control and warning radar repairman,* etc. Comparable civilian jobs include *communications engineer, electronics engineer,* and *radar equipment foreman.* All of these specialized jobs include other duties such as making of routine reports.

If you're interested in a career in this field, be sure to take math, physics, electricity, and radio in school. To score well on the job tests for this field, build up your knowledge of math, mechanics, electricity, and words. Air Force studies include radio operating procedure, electron tubes and circuits, transmitters, and antennas, etc.

The electronics field is expanding rapidly and offers many opportunities for capable young people in both the Air Force and in civilian life. Skilled technicians in this career field will find exciting careers in the new Age of Space.

STATISTICAL ANALYSIS AND MACHINE ACCOUNTING

Although office machines—including the latest electronic accounting machines—are doing more math and office work, the field is still expanding for the young and talented. The Air Force offers attractive opportunities for training and experience in Statistical Analysis and Machine Accounting for young men and women.

Modern Air Force headquarters use electrical accounting machines, such as key punchers, verifiers, sorters, interpreters, reproducers, collators, tabulators, and multipliers. The Air Force trains able beginners to become *statistical specialists, machine accountants, statistical clerks,* and *tabulating machine operators.* Related civilian jobs include *key punch operator, statistical clerk, statistical technician, statistician, sorting machine operator, machine supervisor of records unit, tabulating machine operator,* and *verifier operator.*

In the Air Force, Statistical Services and Machine Accounting workers interpret and simplify information pertaining to every phase of the Air Force's structure. They also conduct comparative analyses for use in command resources, including personnel, material, time, and money.

These jobs call for knowledge of statistical methods, math, and accounting. Dexterity with business machines is most helpful. Applicants for Air Force training should be superior in arithmetic reasoning, dial and table reading, numerical operations, and word knowledge. School courses in math, accounting, English, and the operation of business machines are desirable. The Air Force gives apprenticeship training, on-the-job training, and opportunities for self-study courses.

ARMAMENT SYSTEMS MAINTENANCE

Are you mechanically minded? Do you like to work with tools and blueprints? If you do, you should consider an Air Force career in Armament Systems Maintenance.

Air Force careers include those of *bomb-navigation systems mechanic, fire control systems mechanic,* and *turret systems mechanic.* Related civilian jobs include *radar maintenance, television maintenance, precision instrument maintenance.*

These jobs usually call for knowledge of the application of electronic and mechanical principles and the use of electrical test equipment with ability to interpret and apply wiring diagrams and blueprints.

To qualify for Air Force training in this field, you should be above average in math, in electrical knowledge. Jobs require hand skill and normal vision, including good color vision. School courses in math, physics, electricity, and radio are helpful.

The Air Force gives special courses and on-the-job training as well as self-study courses. The courses give airmen the opportunity to acquire knowledge for more rapid advancement. These are available through the Air Force's Education Program and normally are accredited by civilian schools. Studies include weapons maintenance, radar, and electricity and magnetism.

SUPPLY

Are you interested in handling supplies which might include anything from neckties to gasoline? This field offers many career opportunities in the U. S. Air Force.

Workers in this field order, store, inventory, salvage, and issue a wide variety of property, equipment, and fuel. They operate stores, commissaries, and laundry units. They test products, conduct inventories, and maintain records. They unload, move, and store Air Force property.

Air Force careers include those of *warehousing specialist, organizational supply specialist, records specialist, petroleum supply specialist.* These jobs call for considerable knowledge of supply-procedures systems, methods of property classification, stock-numbering systems, stock-control procedures, disposal methods, safe-handling and storage of inflammable items, and those requiring special storage, use of protective apparatus, application of allowance tables, operation of materials-handling equipment, and fundamentals of merchandising and marketing. Requires ability to compute space requirements for supplies of various types and maintain records.

For this career field, above-average scores are desirable in dial and table reading, word knowledge, and numerical operations. Jobs in this field require considerable skill in the operation of typewriters, adding machines, and fork-lifts. School courses in typewriting, math, bookkeeping, accounting, and warehousing and storage are desirable.

For those who need additional training, the Air Force gives apprenticeship and on-the-job training, and offers opportunities for self-study courses.

With a rapidly expanding civilian population, there are as many opportunities in this field in industry and in merchandising as there are in the U. S. Air Force. The field is open to both men and women who are qualified.

ATOMIC WEAPONS

If you have special interests and abilities, and would like to pioneer in a new and fast-expanding field, you should try for a career in atomic energy. If you qualify, the Air Force will give you a free education worth thousands of dollars.

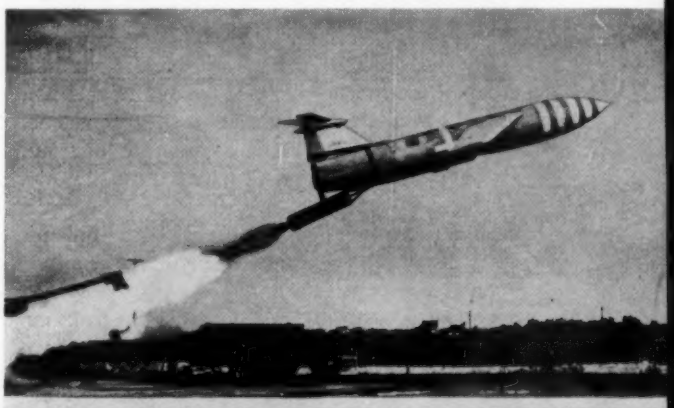
Atomic weapons are the most powerful and modern tools of the Air Force. These new weapons must be inspected, repaired, and maintained. This work calls for specialists. Air Force training leads to a career as *weapons fusing system specialist.*

The weapons fusing system specialist inspects, assembles, tests, maintains, and repairs atomic weapons fusing-systems components and related test equipment. He checks fusing-system components for acceptability; circuits, voltage, and operation of automatic switches with analyzers, frequency meters, voltmeters, and other electronic measuring devices. He installs electrical components in weapons. He repairs major electronic components, maintains and repairs radiac equipment.

Civilian jobs related to the Atomic Weapons career field include *electrical equipment tester, electrical instrument repairman, radar equipment foreman, radio mechanic,* and *radio repairman.*

If you're interested in a career in this field, take school courses in physics, electricity, chemistry, math, and shopwork. Get all the experience you can in using hand- and power-tools.

The Air Force provides apprenticeship and/or on-the-job training and self study-courses. Air Force courses include the study of fundamentals of radar and applications to weapons, electronic and electrical test equipment, blueprints, wiring diagrams, technical orders, math, and safety precautions.



INTELLIGENCE

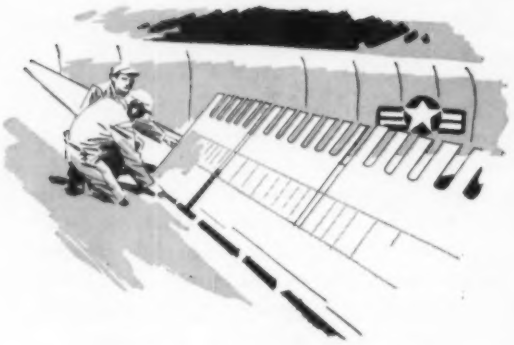
You've probably read some exciting books about people who worked in Intelligence in World Wars I and II. Have you ever considered a career in this interesting field?

If you have taken the right courses in school and are the right type, the Air Force would be interested in giving you further training. The Air Force trains specialists to become *language technicians, intelligence operators specialists,* and *technical intelligence technicians.* Related civilian jobs include *cryptanalyst, topographical draftsman, interpreter, investigator, aerial photographer, radio operator,* and *translator.*

These jobs call for the ability to evaluate, analyze, interpret and report information. School courses in foreign languages, English composition, photography, and math are helpful.

Some workers in Intelligence translate and interpret foreign languages, question prisoners, read foreign matter and audit TV-radio broadcasts, study photographs, and analyze equipment and research. Other Intelligence workers prepare reports, maps and charts and use photographs to brief Air Force personnel on information obtained.

With the rapid advance in technology, and with the current pioneering in rockets and other guided missiles, and the work on satellites, and space platforms, more Intelligence workers are needed.



AIRCRAFT ACCESSORIES MAINTENANCE

Many types of specialists are needed to maintain and repair modern airplanes. Workers in this field maintain aircraft accessories and sub-systems such as propellers, instruments, hydraulic systems and electrical systems. They work with hand and power tools as well as with testing equipment. They work from blueprints, manuals, and schematic drawings.

Specialists in the field include *auto pilot/compass systems repairman, aircraft propeller repairman, mechanical accessories and equipment repairman, aircraft hydraulic repairman, instrument repairman, aircraft electrical repairman.*

These jobs call for considerable knowledge of hydraulics, mechanics, and electricity as well as knowledge of heaters and temperature-control systems. Specialists need above-average scores in electrical information, general machanics, and mechanical principles. Considerable physical effort is required to move and place some equipment.

Related civilian jobs include *airplane mechanic carburetor man, airplane electrician, aircraft manufacturing foreman, final assembly plumber, etc.*

AIRCRAFT & ENGINE MAINTENANCE

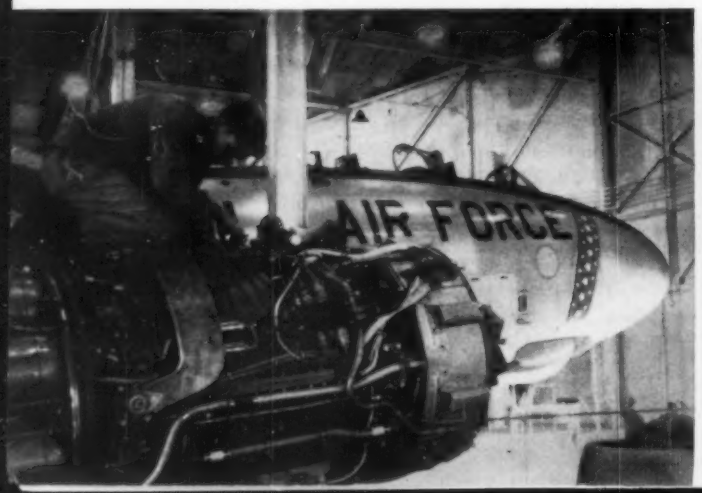
Do you like to tinker with jalopies? If you do, you may find an exciting career in Aircraft and Engine Maintenance in the Air Force.

If you'd like to work with jets, helicopters, and other aircraft, be sure to study shop math, physics, electricity, and machine shop in school. These subjects are basic for this field.

Special Air Force training leads to assignments as *aircraft mechanic, helicopter mechanic, jet engine mechanic,* and *reciprocating engine mechanic.* You'll be working with tools and with engines of special design and importance.

The ever-increasing speed of aircraft depends on the smooth operation of powerful engines in flight and on the ground. This operation requires skilled aircraft and engine maintenance men.

An aircraft mechanic inspects and repairs aircraft. He observes the flight performance of the power plant and aircraft system. He checks control devices and indicators. Such specialized work leads to exciting Air Force careers and to comparable civilian jobs, such as *aeronautical engineer, aircraft engine mechanic, airplane inspector, engineman,* and *engine tester.*



GUIDED MISSILES SYSTEMS

You may like to read stories of rockets and space ships. Have you thought of a career in this fast-expanding field of guided missiles? Missiles have made newspaper headlines in recent months and are becoming an increasingly important branch of the Air Force.

Guided missiles and aircraft-guided rockets require systems of electronic guidance to make sure they reach their destinations. Elements of these systems may be located in manned aircraft or on the ground. They cause a missile to follow a predetermined course or be directed by ground personnel.

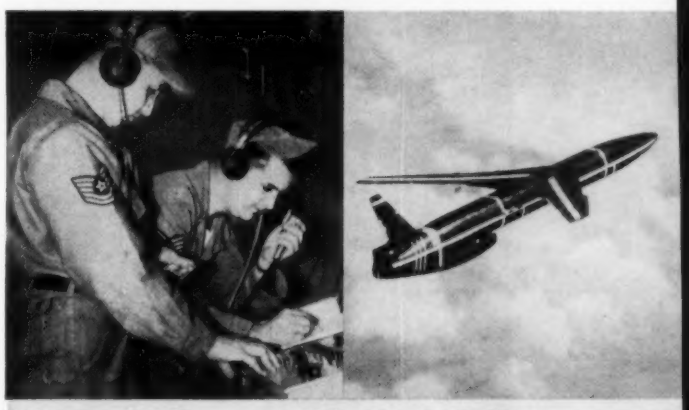
Special Air Force training leads to careers such as *control systems mechanic, instrumentation mechanic,* and *guidance systems mechanics.*

The control systems mechanic assembles, installs, maintains, repairs, and tests guided missile control systems. He assembles and installs guided missile and guided aircraft rocket control systems; he tests assemblies; he adjusts or replaces magnetic amplifiers, solenoids, tachometers, and cathode followers; he synchronizes systems. He repairs voltage and power amplifiers, phase splitters, two-phase motors, and selsyns.

A guidance systems mechanic assembles, installs, maintains, tests, and repairs missile-guidance systems. He maintains guidance systems; replaces and services assemblies and oscillators, filters, circuits, and infra-red sensing devices. He checks and tests guidance systems.

The instrumentation mechanic assembles, installs, and adjusts, and maintains instrumentation equipment. He assembles and installs mechanical and electronic missiles and guided aircraft rockets; he adjusts and replaces defective units.

School courses in radio, electricity, math and physics are helpful.



AIR TRAFFIC CONTROL AND WARNING

Have you ever noticed the workers in the control tower at your local airport? Such workers have important jobs in both civilian aviation and in the United States Air Force.

Personnel in this career field operate control towers, direct aircraft landings with radar landing control equipment; operate ground radar equipment, such as early-warning radar; operate aircraft filter centers; and operate airborne radar equipment.

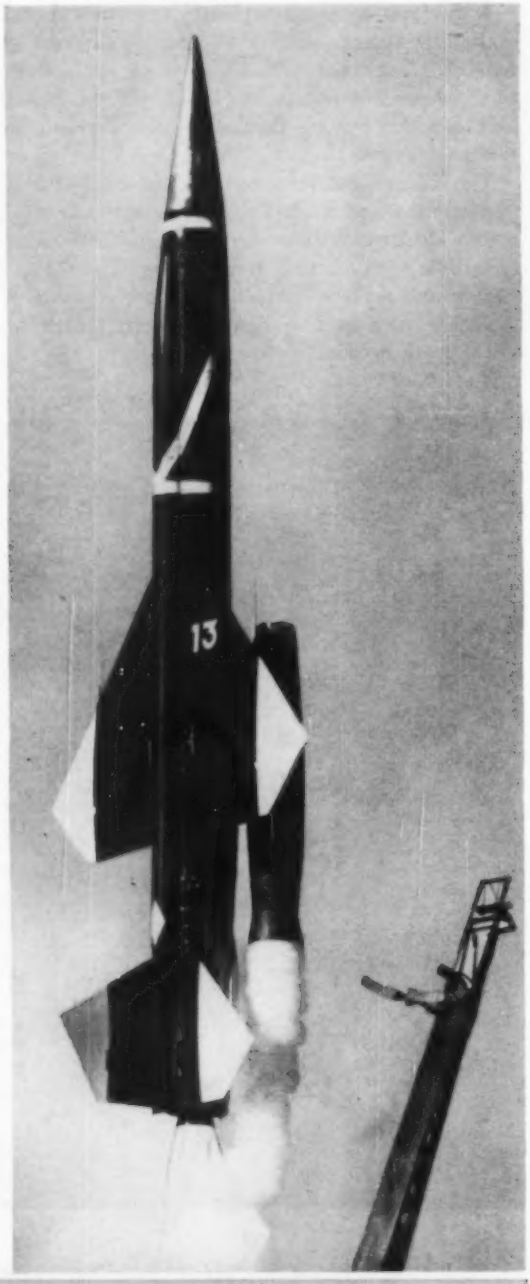
Specialists in this field include:

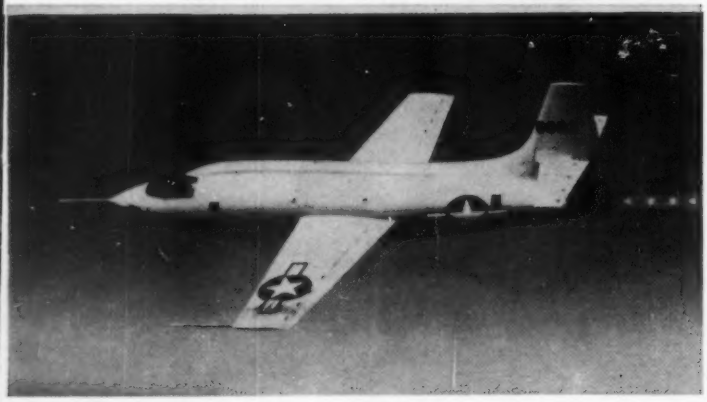
Air route and approach technician who receives reports and plots movement of air traffic. He sends information to pilots and advises on holding and instrument approaches. *Control tower operator* directs aircraft approaching, taking off, and operating on a landing area. *Aircraft landing control technician* handles final approach operations of aircraft. *Aircraft control and warning operator* observes and interprets information gained from radarscopes or displays information relative to radar plotting, and performs minor maintenance.

For careers in this field, get above-average scores in dial and table reading, electrical information, and in memory for landmarks. The Air Force offers special training courses, including study of traffic regulations, radar, radio, control center operation.

To help you qualify for this special training, take speech and English courses in high school and develop a clear voice. If possible, study electricity. Excellent vision and considerable dexterity is required for much of this work.

Training and experience provide Air Force personnel with knowledge for many civilian occupations, including *aircraft log clerk* and *airport control operator.* Both men and women find satisfying careers in Air Traffic Control and Warning.





ROCKET PROPULSION

Once rockets figured only as weapons. Now they assist aircraft to make speedy takeoffs and are an important means of propulsion. Rockets are used to launch man-made satellites. Later they may be used to establish space stations on routes to the moon and Mars.

This development has greatly widened a new career field for rocket propulsion specialists. Installing rocket units calls for the use of small tools as well as skill with your hands.

The Air Force *missile specialist* installs, inspects, repairs, and overhauls liquid-propellant rocket systems, and has other related duties.

An applicant for training in this field should be above average in general mechanics, mechanical principles, and in electrical information. He also should have experience in related mechanical fields. He must have strength and manual dexterity in order to move heavy tools and solid propellants.

SCHOOL COURSES

School courses in machine shop, math, chemistry, physics, and machine shop are recommended. Training in the use of hand and power tools and precision-measuring devices is required.

Qualified trainees, after finishing their basic training, are selected to take apprenticeship training and/or on-the-job training and self-study courses.

After acquiring experience and demonstrating ability in a related mechanical field, airmen become qualified to enter the missile mechanic/technician career field. Normally, they will attend a specialized course which is designed to qualify them as technicians in missile assembly and maintenance.

AIR FORCE TRAINING

Training and experience provide Air Force personnel with knowledge for many civilian occupations. The degree of advancement and proficiency achieved in a particular career field will determine the extent to which one is qualified for such an occupation. Personnel in this career field acquire experience which may be helpful in obtaining civilian employment in test and research centers, with both government or industry. Chemical, ordnance, and aircraft industries, particularly, provide opportunities for employment.

Related civilian jobs include *acid man, aircraft carburetor assembler, automobile fuel pump repairman, carburetor man, ignition and carburetor mechanics,* and *strong nitric operator.*

OTHER CAREERS AT A GLANCE

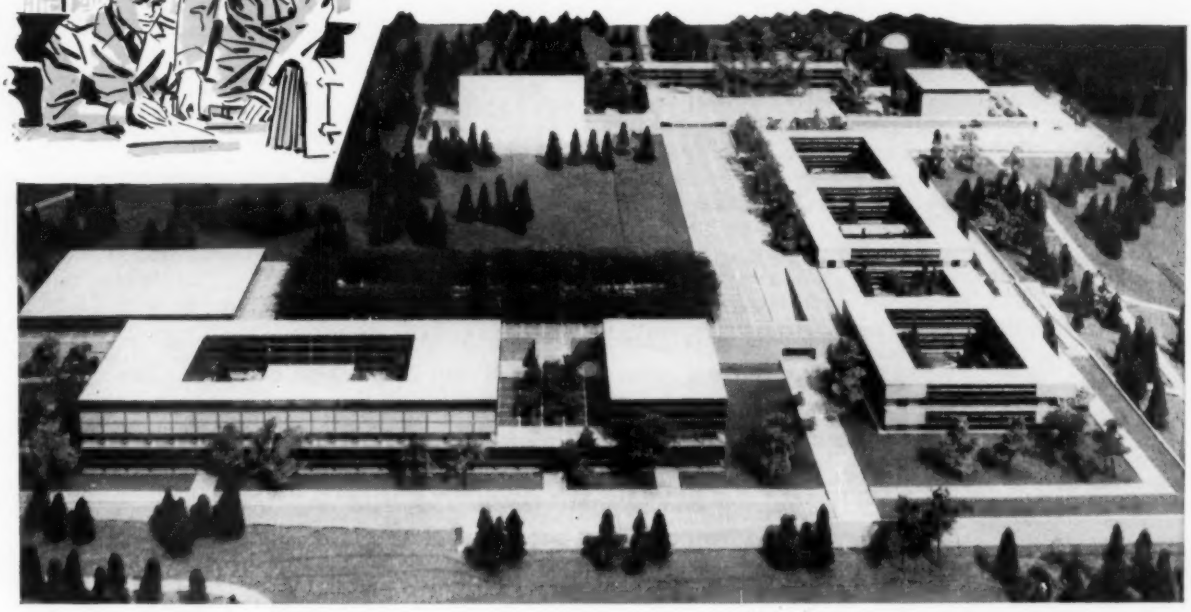
• YOU have been reading about some of the "careers with a future" in the U. S. Air Force. Here are some other career fields which are not overcrowded and which spell opportunity to able, young beginners in both the Air Force and in civilian occupations. For more details about these and scores of other careers, ask your school librarian for *United States Air Force Occupational Handbook*. Or get a *free* copy from your nearest Air Force recruiting officer. For additional information about related civilian careers, read the 1957 edition of *Occupational Outlook Handbook*, prepared by the Department of Labor.

REQUIREMENTS (Education & Experience)	REQUIREMENTS (Personal)	DUTIES	TRAINING GIVEN	RELATED CIVILIAN JOBS
PHOTOMAPPING (Men and Women)				
H. S. or better; Study English, math, geography, map and blueprint reading, current affairs, and physics.	Dexterity to operate precision instruments; excellent eyesight; normal color vision.	Field survey activities; compile information about specific areas.	Apprenticeship trng. in formal basic courses and/or on-the-job trng. and self-study courses.	Map draftsman, mapmaker, cartographer, compass man.
WEATHER (Men and Women)				
H. S., some college if possible. Study meteorology, physics, math, geography, and English.	Hand dexterity.	Maintain weather instruments and observe and record weather elements—facts about clouds, wind velocity, temperature, etc. Make weather charts and prepare data for radio and teletype.	Apprenticeship trng. and/or on-the-job trng. and self-study courses.	Meteorologist, weather forecaster, weather observer.
COMMUNICATIONS OPERATIONS (Men and Women)				
H. S., study English, office machines, and electricity.	Dexterity, normal hearing and eyesight.	Operate equipment in communications center. Operate airborne reconnaissance and radio equipment, and receiving equipment in radio station; intercept, record radio communications signals.	Apprenticeship trng. and/or on-the-job trng. and self-study courses.	Radio operator, central office operator (tel. & tel.), cryptographer, teletype operator, telephone supervisor.
TRAINING DEVICES (Men)				
H. S. Take math, English, physics, blueprint reading, and radio.	Mechanical ability.	Install, operate and repair instrument, navigation, bombing, and gunnery trainers and flight simulators. Work with small tools and precision test equipment.	Apprenticeship trng. and/or on-the-job trng. and self-study courses.	Trainer instructor, radio mechanic, instrument man.
INTRICATE EQUIPMENT MAINTENANCE (Men)				
H. S., majoring in shop courses, blueprint reading. Study math, physics, mechanical drawing.	Considerable mechanical ability and manual dexterity.	Overhaul and modify office machines and photographic and medical equipment. Re-condition typewriters, cameras, calculators, accounting machines. Work with blueprints and schematic drawings.	Apprenticeship trng. and/or on-the-job trng. and self-study courses.	Business machine inspector, camera repairman, office machine serviceman, tabulating equipment mechanic, etc.
UTILITIES (Men)				
H. S., take courses in math, science, shop, blueprint reading.	Dexterity, physical strength, normal vision.	Install, maintain, repair electrical systems and equipment. Operate gas-generating plants. Install and repair plumbing and heating systems.	Apprenticeship trng. and/or on-the-job trng. and self-study courses.	Electrician, air - conditioning mechanic, gas plant operator, lineman, repair plumber, water filterer.

(Cont'd)

REQUIREMENTS (Educ. & Exper.)	REQUIREMENTS (Personal)	DUTIES	TRAINING GIVEN	RELATED CIVILIAN JOBS
MUNITIONS & WEAPONS MAINTENANCE (Men)				
H. S. Take machine shop, math, mechanics, chemistry, electricity, and hydraulics. Mechanical experience helpful.	Considerable mechanical aptitude and mechanical dexterity.	Maintain and repair aircraft armament; store munitions; repair and install aircraft machine guns; repair small arms; position and align rockets on aircraft. Use technical manuals and directives.	Apprenticeship trng. and/or on-the-job trng. and self-study courses.	Aircraft armament mechanic, armament mechanic, armorer, gunsmith, inspection (ammunition), powderman (ammunition).
MOTORIZED AND MISC. EQUIPMENT MAINTENANCE (Men)				
H. S. Take shop math, physics, automotive mechanics, electricity, hydraulics, and blueprint reading. Know how to handle hand and power tools, precision-measuring devices.	Considerable mechanical aptitude and manual dexterity. Physical strength to handle heavy parts.	Rebuild gasoline and diesel automotive powered, ground and construction equipment; repair engines and accessories. Work with tools, test equipment, manuals and charts.	Apprenticeship trng. and/or on-the-job trng. and self-study courses.	Auto accessories installer, auto repairman, auto test engine mechanic, bus mechanic, electrician, automotive, maintenance mechanic, motor analyst, etc.
TRANSPORTATION (Men and Women)				
H. S. Study office machines, traffic regulations, business arithmetic, auto mechanics. Have a driver's license.	Manual dexterity.	Process bills of lading, transportation applications, etc.; provide for passenger flights and give information; consign shipments; operate vehicles and materials - handling equipment; use business machines.	Apprenticeship trng. and/or on-the-job trng. and self-study courses.	Cargo handler, dispatcher, shipping clerk, chief steward, traffic rate clerk, trailer truck driver, ticket agent.
WIRE MAINTENANCE (Men)				
H. S. Study electricity, shop math, physics, mechanics, blueprint reading.	Considerable dexterity and manipulative ability.	Repair telephones, teletypewriters; install and maintain telephone and telegraph landline systems. Work with hand-tools and test equipment, blueprints, cable diagrams, and charts.	Apprenticeship trng. and/or on-the-job trng. and self-study courses.	Cable splicer, central office repairman, senior lineman, telephone inspector, teletype repairman.
METAL WORKING (Men)				
H. S. Take mechanical drawing, shop math, mechanics, patternmaking, sheet-metal drafting, welding, physics, and blueprint reading.	Mechanical ability and manual dexterity.	Design and machine precision tools, parts, and assemblies; operate metal-working machines; electroplate metal parts; weld; repair and replace automotive parts. Work with tools, measuring devices, blueprints, and manuals.	Apprenticeship trng. and/or on-the-job trng. and self-study courses.	Machinist, plater, sheet metal worker, toolmaker, welder.
CONSTRUCTION (Men)				
H. S. Take shop math, woodworking, farm mechanics, agriculture.	Manual dexterity. Need physical strength to move materials.	Maintain and repair roads, railroad beds, grounds, drainage channels, and runways; erect and repair masonry and wooden structures; paint buildings and furniture. Operate construction equipment; use tools, manuals, blueprints, sketches.	Apprenticeship trng. and/or on-the-job trng. and self-study courses.	Blaster, bricklayer, cabinet-maker, carpenter, cement finisher, spray painter, power-shovel operator.

EDUCATIONAL AND OTHER OPPORTUNITIES IN THE AIR FORCE



The Air Force offers numerous opportunities for you to obtain training in various career fields and to increase your academic education. After you've finished your basic training, you may receive special schooling in the career field where you have the most talent. Also, the Air Force has a well organized program of on-the-job training.

If you wish to continue your academic education, you may, at very little or no cost, enroll in group study, correspondence or self-teaching courses available from the United States Armed Forces Institute (USAFI). In addition, many high schools, technical schools and colleges offer night classes on or near Air Force bases. You may enroll in such classes during off-duty time.

RESERVE OFFICERS

The Air Force Reserve Officers' Training Corps (AFROTC) provides the Air Force with its largest single source of officers. One hundred eighty-eight colleges and universities assist in this program.

The U. S. Air Force Officer Candidate School, located at Lackland Air Force Base, Texas, is one of the most important sources supplying officers. OCS is open to Airmen and WAFs as well as to young women not in the Military Service. To qualify, Airmen must have a high-school education or pass an examination based on the educational equivalent. They must be in sound physical condition, of high moral character, and be between 20½ and 26½ years of age.

The aviation cadet program includes both pilot and navigator training. It takes approximately one year to complete either of the courses. The training is available to both civilian applicants and in-service personnel who are male citizens between the ages of 19 and 26½. Applicants must be single and meet the prescribed medical standards for flying training. Cadets who successfully complete basic training in either of the courses are commissioned second lieutenants and awarded the silver wings of the U. S. Air Force.

AIR FORCE ACADEMY

The Air Force has a new academy near Colorado Springs which is in many respects comparable to West Point and Annapolis. Applicants must pass physical tests and examinations on their school work to qualify for consideration for appointment. They must be 17 to 21 years of age and not married.

Academy graduates receive a bachelor of science degree and are commissioned second lieutenants in the regular Air Force after their four-year course.

In the summer, cadets study special military problems and visit U. S. Air Force bases in the United States and overseas.

If you'd like information about the Academy, and how to become a cadet, write for a free booklet. The address is: Director of Admissions, U. S. Air Force Academy, Denver 8, Colorado.

A MESSAGE TO HIGH SCHOOL STUDENTS

"You have read about the early Age of Flight, while you have grown up in the Jet Air Age. Now, as young men, you are witnessing the arrival of the Age of Space. This will be the age of trained specialists—those who have backgrounds in rocketry, jet propulsion, electronics and allied highly skilled fields. The United States Air Force offers complete training and unlimited career opportunities in these fields to young men of above average initiative and ability to learn. The local Air Force recruiter will be happy to explain in detail and answer any questions about the varied opportunities available to you in the United States Air Force."

RICHARD H. CARMICHAEL
Major General, USAF
Director, Personnel Procurement & Training
Headquarters United States Air Force

UNITED STATES AIR FORCE

PASTE COUPON ON POSTCARD AND MAIL TO:

Airman Information, Dept. S8
Box 7608, Washington 4, D. C.

Please send me more information on my opportunities in the U.S. Air Force. I am between the ages of 17-34 and reside in U.S.A. or possessions.

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

Crackdown on Delinquents

The Board of Education of the nation's largest city, New York, embarked on a "get tough" program against troublemakers in the city's public schools.

The new policy: suspension of all students "charged with a violation of law involving violence or insubordination." Such students would be suspended from public schools until found innocent in a hearing.

Asserting that its duty was to "protect the innocent [students] from the violent," the board immediately suspended nearly 800 student troublemakers outright. More suspensions were reported to be on the way.

As we went to press, a Senate subcommittee headed by Sen. Thomas C. Hennings, Jr. (Dem., Mo.) was planning to probe violence and "hoodlumism" in New York's schools.

▶**What's Behind It:** The New York City Board of Education's ruling came after a series of incidents involving violence in city schools. The violence included beatings and stabbings of a few students by other students—alleged to be members of a hard-core group of troublemakers.

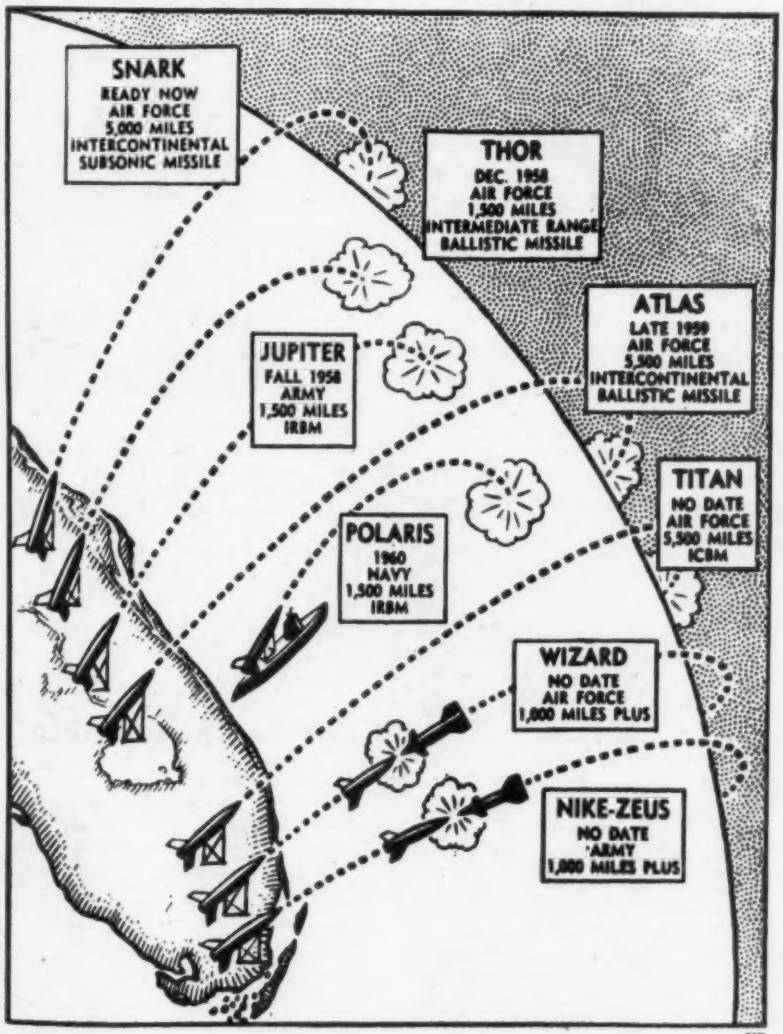
To date, New York City schools have been unable to get rid of many troublemakers. Reason: New York State law requires all children to go to school until they are 17—unless a student gets a job and wants to quit at 16. State law also requires that a suspended student—up to the age of 17—be placed in a correctional institution (such as a reform school or other "special school"), where his education could be continued.

In the past, the New York City Board of Education has followed the law to the letter. It set up correctional institutions for convicted juvenile delinquents. But correctional institutions soon became overcrowded. For this reason, many convicted troublemakers received suspended sentences and were allowed to continue attending their regular schools—where they often caused trouble all over again.

At the same time that it suspended the 800 students, the New York City Board of Education proposed construction of six new "special schools" for delinquent children. It also proposed that more reformatories be built. However, the board said it could not wait for the construction of these special schools—and thus began wholesale suspension of student troublemakers.

This action of the board aroused a storm of controversy. Here are some of the arguments on both sides:

Critics of the ruling argued that suspension without provision for special schools was illegal under state law. Dr. James E. Allen, Jr., State Commissioner of Education, said that



UP

MISSILES—WHERE WE STAND. How the U.S. stands as of early 1958 in the missile race is shown by this drawing. Only one of the missiles, the Snark, is operational at present; it is relatively slow, with a speed near 600 mph. The Thor and Jupiter are in the 15,000 mph rocket-driven ballistic missile class; both are intermediate range (1,500-mile missiles), will be operational by end of 1958. The ultimate ICBM (5,500 miles)—the Atlas—has its operational goal set at late 1959. In anti-missile field, the Wizard and Nike-Zeus are still in earliest stages.

the board had a right to suspend delinquents. But, he added, the board must provide an alternate system of education for the suspended pupils—something the board said it had no funds to do.

A panel of more than 250 New York City students also attacked the Board's ruling. The panel concluded that suspended students would cause more trouble hanging around street corners than in schools. The teenagers proposed instead that parents give more time to their children.

Supporters of the board's ruling, on the other hand, argued that public schools were under no obligation to act as "baby sitters" for juvenile delinquents. Such a job, they said, was the obligation of reform schools.

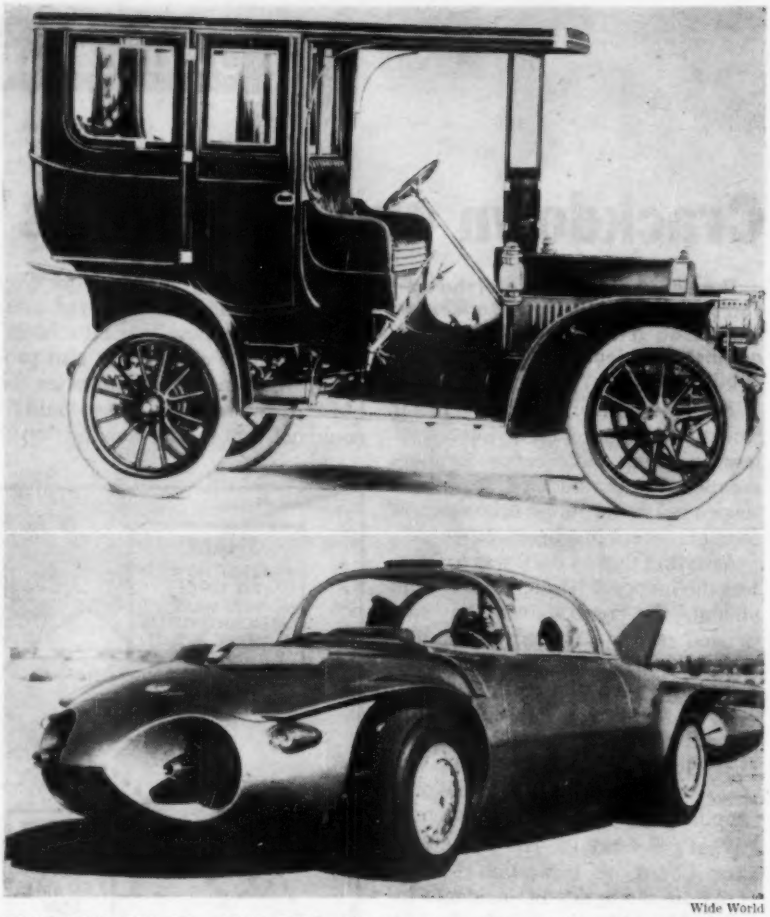
A county grand jury, which had been investigating the school problem for three months, reached a similar conclusion. In a statement, the grand jury declared: "Something must be done *now* . . . to clear out of our schools that one per cent who prevent the decent 99 per cent from getting the benefit of almost one-half billion dollars of our tax money spent by the Board of Education."

Other supporters of the board's suspension ruling say the age at which a student can be suspended permanently from school should be lowered from the present 17 years of age to 16 or even lower. They say this would enable the board to get rid of "hard-core" troublemakers earlier than it presently can.

Meanwhile, a special survey by *Scholastic Magazines* has shown that the juvenile delinquency problem is on the increase in high schools across the nation. *Scholastic* surveyed 10 major U.S. cities, with the help of local police. The problem was found to be serious, but not insoluble.

One major weapon against delinquency, the *Scholastic* survey indicated, was establishment of youth curfews. Under a curfew, youths must stay off the streets after 9 or 10 o'clock in the evening. Seven of the 10 cities surveyed by *Scholastic* had enacted such youth curfews. Six of the seven cities vigorously enforced the curfews, and credited them with being a major factor in curbing delinquency.

Here are some questions to ask yourself: In your opinion, what is high school for? Would you go to school if the law didn't require you to go? Do you think the minimum school-leaving age should be lowered in your state? Should students who go to school only because they have to go be dropped from school rolls? Should a curfew be enacted in your city or town?



Wide World

GRANDPA'S CAR VS. YOUR CAR?—Chances are, when you're able to buy your own automobile in a few years, it'll look like the Firebird II (*below*), General Motors' new experimental gas turbine car. It's a far cry from GM's first Cadillac in 1908 (*above*)—which excited Grandpa as much as the Firebird II does us 1958-ers.

Tunisian Town Bombed

The bombing and machine-gunning of the Tunisian village of Sakiet-Sidi-Youssef by French warplanes has strained French-Tunisian relations to the breaking point.

The air attack was carried out by 25 low-flying French planes which crossed the Tunisian border from neighboring Algeria, where the French have been fighting Algerian rebels for three years. According to Tunisia, 78 civilians—including many women and children—were killed and 84 were wounded.

French military officials declared that the raid on the border town was a "legitimate defense action." They said its purpose was to destroy a rebel anti-aircraft battery, based on Tunisian soil, which had allegedly shot down a French plane on the Algerian side of the frontier.

The French have long claimed that Tunisia has been harboring and aiding Algerian rebels fighting the French. Recently the French warned Tunisia they would carry out tough reprisals if such aid continued.

The Tunisian government has angrily denied the French accusations. And it called the bombing attack "premeditated aggression."

Following the incident, anti-French sentiment in Tunisia mounted dangerously. But Habib Bourguiba, pro-Western President of Tunisia, called on his people to keep calm. He told them that despite French "aggression . . . we shall continue . . . to believe in peace."

While trying to restrain his coun-

trymen's tempers, Bourguiba moved vigorously to protest the French action. At home, he insisted that 20,000 French troops stationed in Tunisia under a Franco-Tunisian treaty be withdrawn. On the international front, he demanded that the United Nations Security Council meet to condemn the French bombardment.

▶**What's Behind It:** Most observers agree that the present conflict between France and Tunisia has its roots in Algeria. For three years, Moslem nationalists in Algeria have been fighting a bloody hit-and-run guerrilla war aimed at ousting the French from their long-held Algerian territory *(see major article on Algeria in September 20 issue)*.

Moslem Tunisia, having won its own independence from France only two years ago, feels it has much in common with Algeria. Algerian rebels have often found refuge from French forces by crossing the 500-mile Algeria-Tunisia border.

French military leaders have bitterly complained of rebels "hitting" objectives in Algeria, then "running" to safety across the Tunisian frontier. They have also accused Tunisia of harboring Algerian nationalists and providing them with weapons.

3 Vice-Presidents for U.S.

President Eisenhower thinks that America in the Nuclear Age needs three Vice-Presidents.

This, according to Washington reports, is his conclusion after five years in the White House. The President is said to feel that the present system of one elected Vice-President (provided under the Constitution) is no longer adequate.

He therefore favors adding two more V-Ps—to be appointed by the President. One would take some of the workload off the President's shoulders in foreign affairs. The other would help in domestic affairs.

The President could create the new posts by an executive order. But he is reported to believe that they would have more prestige and public support if they were set up by Congress. White House sources say they expect the President to send his proposal to Congress in the near future.

▶**What's Behind It:** President Eisenhower's heart attack in 1955 and his intestinal operation in 1956 have focused national attention on the wear-and-tear of the Presidency. In this century alone, three Presidents have died in office, two have been crippled in office, and two have died prematurely after retirement.

Former President Harry S. Truman recently said: "The Presidency is a man-killer. It is five or six full-time jobs—all different, all difficult."

Under the Constitution, the President must sign some 200 official papers and letters a day, plus about 1,000 Congressional bills a year. As Chief of State, he must greet foreign dignitaries and attend a variety of official functions. He is Commander-in-Chief of the Armed Forces. In addition, he is the political leader of his party and must help draft party policy to aid the party's candidates at election time.

The Founding Fathers never dreamed that the Presidency would expand so much—and so fast. Many people feel, therefore, that the job must be revamped in the current era of guided missiles and space travel.

A number of political observers have recommended that one or two additional Vice-Presidents be added to take over some of the President's ceremonial and less important duties. Some others—including former President Herbert Hoover—have urged that the President appoint one or two "administrative assistants" to help him coordinate specific policy-making decisions. *(See "The Presidency—Man-Killing Burden?," Jan. 24 issue.)*

IN BRIEF

Rx for Communism. Dr. Thomas A. Dooley reports he is making headway with an idea for fighting the plague of communism—with medicine. His idea: that private medical care can win for the U.S. more friends than can Government aid. Two years ago Dr. Dooley offered his services to Laos. There, with private financial help, he set up two clinics in bamboo shelters in the jungles of this underdeveloped area. His success has led to formation of the Medical International Cooperation project. Sponsors of the project have received contributions for the program from private American corporations and foundations. Drug companies are pledging medicines and supplies, and three new teams of doctors have already been organized to go to other underdeveloped areas.

Peter Beck, Private Eye (Sharp, Too). A 16-year old high school sophomore with a sharp eye and a good memory has been credited by the FBI with helping to capture a notorious bad-check passer. Last summer Peter William Beck, of Kalama, Washington, secured a job as chauffeur to "a successful businessman." For the past two years the man (unbeknown to Peter) has been successful indeed—at passing worthless checks throughout the U.S. Recently Peter saw the man's picture on a "Wanted" poster, recognized him, and called the FBI. Although Peter knew the man had left Kalama, he remembered that his former boss had spoken often of a friend in Wilmington, N.C. And there it was that the FBI found a criminal wanted in at least 16 states as the nation's number one bad-check passer.

Benelux Treaty Signed. Belgium, the Netherlands, and Luxembourg have signed a six-document treaty establishing the "Benelux Economic Union." The three nations (the first letters of which combine to make up the name *Benelux*) agreed that over the next 50 years, 97 per cent of all goods will move from one nation to another with no tax or tariff at all. There will also be complete freedom of personal travel between the nations.

Soccer Tragedy in Britain. Britons last week mourned the death of seven members of Britain's champion soccer team—the Manchester United—killed in a plane crash. Because soccer (or, as it is called abroad, football—with 11 players per team plus coaches and substitutes) is Britain's national game, sports lovers took a long look at American plans made by major league baseball teams in the event of a similar tragedy. American League teams recently agreed that if any one team should lose seven or more players in a disaster, the other American League teams would each contribute the names of 12 players to a "pool" from which the stricken club could make up a new roster.

Stories in a Sentence

▶Italian newspapers have stopped calling the first U.S. earth satellite the Explorer, nicknaming it "Ike-nik."

▶Paramount, last major Hollywood studio "holding back" from TV its library of pre-1948 features, has given in and sold 750 films for TV showings next year.

Quick Quiz ON THE NEWS

1. [Britain, France, Tunisia] was charged with bombing a village in [Algeria, Egypt, Tunisia]. President [Nehru, Bourguiba, Eisenhower] protested the action to [the U.N., the World Court, NATO]. *Choose one in each bracket.*

2. Which countries are included in the new Benelux treaty: Luxembourg, Andorra, Lebanon, Belgium, Netherlands, Denmark, Monaco, Nepal?

Science in the News

White Gold of the Desert

Take some black volcanic mountains, huge bleak boulders, 15,000 square miles of sand, a deep blue sky, a searing sun, and shifting mirages. What do you have? The Mohave Desert, sprawling aridly across the eastern half of southern California.

The cactus-dotted sands of the Mohave Desert take up almost as much space as the states of Massachusetts, Connecticut, Rhode Island, and New Jersey added together. The desert's main tourist attraction: Death Valley —the lowest (282 feet below sea level), hottest (134 degrees Fahrenheit in July, 1913), and driest (2.4 inches of annual precipitation) region on the North American continent.

The first white men to set foot in the valley were prospectors in the '49 gold rush. The valley's searing heat and waterless sands almost killed them. When they finally escaped, one of them looked back and muttered, "Good-by, Death Valley." The grim name stuck.

Although early gold prospectors didn't realize it, Death Valley and other sites in the Mohave Desert were actually huge treasure chests of "white gold"—the chemical borax.

Borax was discovered in the Mohave Desert in 1856. Eight years later, the first borax mine was opened in Death Valley. In those days, borax was used only as a household cleanser.

Few housewives ever realized the toil that went into providing them with borax. The borax ore was carted out of Death Valley to the nearest railroad station, 165 miles away, in lumbering wagons hauled by 20-mule teams. It took 20 parching days to make the round trip of 330 miles.

The 20-mule team actually consisted of 18 mules and two draft horses. The two draft horses were hitched in the "wheeler position"—directly in front of the lead wagon. (The horses were used because they were smarter than mules, and took orders better.) Then came the nine pairs of mules. When all 20 animals were hitched together, they formed a double line that stretched 100 feet ahead of the wagons. Each borax wagon weighed 16 tons when loaded. Each 20-mule team pulled a wagon train consisting of two borax wagons and a water wagon. Total weight: 36½ tons.

A 20-mule team had a crew of two men: a driver and a swamper. The driver wielded a 22-foot-long whip. He also carried a pocketful of small rocks to "encourage" balky mules up steep grades. The swamper had many duties. He rode the rear of the wagon train, applying the brakes on downgrades. At the end of the day, the swamper made a fire, cooked the evening meal, and washed the dishes. In the morning, he collected the rocks the driver would need to keep his balky mules going.

In 1900, the railroad came to Death Valley and other borax mines in the Mohave Desert, throwing the 20-mule teams out of work. In the years that followed, the demand for borax grew ever larger. Borax became an essential ingredient in the manufacture of ceramics, glass, plastics, gasoline additives, flame proofing and fire extinguishing materials, porcelain enamels, and almost a hundred other industrial products.

Recently, scientists put borax to work in a revolutionary new way. They found that boron (a chemical derived from borax), when added to other chemicals, made a superpowered fuel for rockets. Thus borax has become a basic fuel for the space age.

Late in 1957, a new open pit mine was dug at Boron, Calif. (*see photo*), site of more than 70 per cent of the free world's borax, by the United States Borax & Chemical Corp. A modern refinery was built next to the mine. This refinery will boost U. S. borax production by 30 per cent annually, and provide enough boron to meet the needs of the free world for the next century.

New open pit mine and refinery in California, located at site of the world's largest known borax deposit, can fill free world's needs for next century.

U. S. Borax and Chemical Corp.

Until 1900, 20-mule teams hauled borax ore 165 miles to nearest railroad. Each team pulled "train" of two ore wagons and a water wagon—total of 36.5 tons.

For rewarding entertainment, see "OMNIBUS"... NBC-TV.

The future's never been brighter for college students...

facing today's world of opportunity

TODAY, almost all the leaders of American business are college trained . . . over half of them with backgrounds in engineering or science.

But students must plan ahead as early as possible in high school. Parents and school counselors can help make certain that young people take the right preparatory subjects for college. Then, when the time comes, students will have freedom in selecting courses for their future careers.

To help more young men and women achieve their ambitions, Union Carbide established a scholarship plan five years ago. Today, over 750 scholarships and fellowships go to deserving students. The selection of scholars and administration of scholarships are in the hands of college officials.

The people of Union Carbide consider this program a worthwhile investment in America's most valuable future asset—its youth.

LEARN MORE *about Union Carbide Scholarships and the opportunities they present to deserving young people. Write today for Scholarship Plan Booklet A.*

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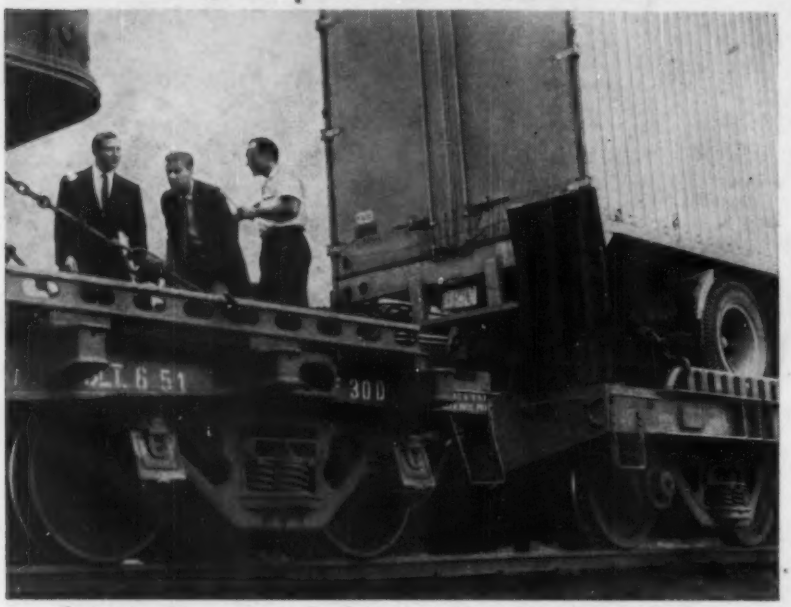

Keeping alert to innovations that can facilitate shipping is an important part of a traffic manager's job. Here, two industrial traffic managers get first-hand information about a recently developed system for shipping cargo-laden trucking company trailers by rail. Trailers return to the highway for delivery of their cargoes to final destinations.

Should you be a Traffic Manager?

by GEORGE P. BAKER

Professor of Transportation, Harvard Business School,
President, Transportation Association of America (As told to DONALD ROBINSON)

WIDE-WINGED PLANES racing through the skies. Mighty trains roaring down the tracks. Powerful trucks dashing along the nation's highways. Hefty ships cutting through ocean waves and inland waters. Every moment of every day they are on the go, carrying goods from place to place.

Transportation is a huge, 100-billion-dollar-a-year industry in the United States today. And it is still growing. In 1939, American transportation men handled 543.5 billion ton-miles of freight. In 1956, the total was over 1,350 billion ton-miles. By 1960, the figure is expected to be 1,750 billions.

There is a key man in this dynamic field—the industrial traffic manager. He helps keep freight moving speedily, safely, punctually. He sees to it that raw materials reach the factories, that finished products arrive at the markets, that you and I get the things we need when we need them.

His is among the most interesting, constructive assignments in all industry. It is no accident that industrial traffic managers rarely switch careers.

Just look at the absorbing duties a traffic manager for an industrial concern has. The movement of all goods to and from his company's plants is under his personal direction. Should a shipment be sent by road, rail, water, air, or pipeline? It is his decision. Which route should be traveled? It is up to him. What carrier should be awarded the multi-thousand-dollar business? He says.

No simple task this. Not when you consider that, to do it well, a man must know every type of transportation service thoroughly, and be able to make his way through countless freight classifications, rates and routes, plus thousands of intricate local, state and federal transportation regulations.

The industrial traffic manager has lots of other stimulating functions, too. Real detective work like tracing lost shipments, for example. Processing damage claims. Auditing bills which can run into millions of dollars. Leasing port and terminal facilities for cargo. Handling insurance questions.

There's more: Many companies operate their own fleets of trucks, tanks and freight cars, barges, and even planes. Whether or not to do so is the traffic man's problem. If he is qualified, the traffic manager also may be called upon to appear at formal hearings before the Interstate Commerce Commission, or other regulatory bodies, and argue his company's case in rate matters.

In addition, some traffic men are responsible for packaging, loading and warehousing. They have much to do with the selection of new plant sites, too.

As you can see, a traffic manager is a pivotal person in his company. He works closely with the production department to set shipping schedules that jibe with manufacturing programs. He sits in with the purchasing department to determine quantities that can be transported most economically. He cooperates with the sales department in the development of new marketing areas.

A good man can save his company a vast amount of money. Not long ago, a man I know of took over as traffic manager for a manufacturer of "assemble-it-yourself" furniture. He did some careful research into freight classifications and came up with a bright new idea.

"For years," he said to the owner of the company, "you have been shipping your nuts and bolts and your wooden parts in the same crates. Let's ship them separately from now on."

"Sounds crazy to me," his boss said. "Why?"

"Because they have different freight classifications. If we ship them separately, we can get the benefit of the lower rates on the nuts and bolts."

His plan was adopted. It is saving his firm $280,000.

Inasmuch as some industries spend almost forty percent of their sales income on outbound freight, you can see the significance of reduced transportation costs. And the importance of the traffic managers who achieve them.

I must admit that traffic managers have not always stood high in industry.

They did when they first came into existence. That was in the early days of railroads, last century. There was no regulation of freight rates, and each concern had to make its own bargains with the various railroads. It hired a specialist to do the negotiating and a good one was worth his weight in gold.

However, after the passage of federal legislation in 1887, regulating freight rates, it was widely felt that nothing much was left for traffic managers to do. Their stature often dwindled to that of minor shipping clerks.

Now times have changed again. With the evolution of modern, competitive means of transportation—trucks, airplanes, barge lines—industry has come to realize more and more that traffic management is a science which it cannot afford to neglect.

Today, traffic managers enjoy considerable esteem and influence. More and more of them rank as vice presidents of their companies. They have sizable staffs under them and they are paid accordingly.

Lately, a survey was made of the salary scales among industrial traffic managers. It was learned that many leading traffic managers receive salaries of around $50,000 a year. In the chemical and petroleum industries salaries of $25,000 to $30,000 are common.

Traffic managers count heavily outside of their own companies. In moments of crisis, the government invariably turns to them for help. During World War II and the Korean War, many did yeoman service in Washington, transferring raw materials to war plants and getting munitions and troops to the battlefields.

I know of one traffic manager who was awarded the Department of Defense Citation for Exceptional Civilian Service in the Korean War.

Nor is that all. The views of traffic men are sought in state capitols and in Washington and they play a crucial role in setting government transportation policy. Their views are often worked out in the National Industrial Traffic League, a shipper association with high principles and fine traditions, and in the Transportation Association of America which gets men from all forms of transport and shippers and investors to sit down around a table and work out common problems of national significance.

Traffic management has other advantages to the young person seeking a career. The hours are regular. Working conditions are pleasant. You often travel far and wide. You usually have job security. Chances for promotion are excellent.

Best of all, I can truthfully report that traffic management has graduated from the level of an occupation to the prestige heights of a profession. Traffic men have a splendid code of ethics—adopted through the endeavors of the American Society of Traffic and Transportation and the transportation fraternity, Delta Nu Alpha—and they have immeasurably upgraded the academic, character and other qualifications important for employment in the field.

Traffic men like to get together. A tremendous number of active traffic clubs give young men a chance to meet others in their profession and discuss their common problems. This kind of activity, along with the valuable educational activities of Delta Nu Alpha, the American Society of Traffic and Transportation and Associated Traffic Clubs of America, offers remarkable opportunity for a young man's development.

Opportunities for jobs are almost limitless. Industry is crying for competent, trained traffic managers. A real shortage exists.

It is worth noting that half of the 267,000 factory enterprises in the United States still do not employ a traffic manager. This means that a really ambitious young man, with a few years' experience, has an open road in front.

Obviously, traffic management has a darker side to the picture. A newcomer must recognize that he is not going to become a millionaire. Although wages can be more than comfortable, they are not astronomical. Furthermore, the first years may be pretty much of a grind. While you are learning the business, a great deal of routine work has to be done.

You'll also be irked to find that the name "traffic manager" is often used much too lightly in industry. Too frequently it is given to shipping clerks and others whose jobs don't warrant it.

This cannot be denied either. Once you get to be a traffic manager, you may well not go farther, though of course many do.

Where do girls fit into the industrial traffic management picture?

Opportunities are ample for them. Certainly the climb will be steeper for them than it is for boys. That is the case in most lines. Nevertheless, many girls are now in the field. A number have attained the top and are highly respected for their accomplishments.

Already there are more than fifty women's traffic clubs in the country. The Women's Traffic Club of New York alone has 500 members.

You ask what manner of youngster would do well in industrial traffic management? Unquestionably, he (or she) must have an ingrained love for transportation. He could well be the kind of boy who couldn't stop playing with model trains—or planes.

In my opinion, the boy thinking of industrial traffic management as a career should like geography; he will need to know the nation's maps inside out; have an excellent memory—he'll want it for memorizing rates and routes. Be adept at figures. Be a good logical talker. Be an affable, tactful type who gets along well with other people; personal contacts carry immense weight in this business.

Since he may be purchasing millions of dollars worth of transportation, he should be the type of boy who knows how to spend money wisely and who likes to shop around before he buys things.

There is no set preparation for a post as an industrial traffic manager. A man with only a high school education can qualify, provided he's had enough practical experience. The careers of many distinguished traffic men attest to that. However, most companies now prefer college graduates.

It is best for a man to have had four years of college or its equivalent when he takes the Interstate Commerce Commission examination to be licensed to argue cases before that agency.

College should not be too much of a financial strain. Boys and girls can work their way through, and scholarships are available for the smarter ones. A drive is on right now to get industrial concerns to underwrite scholarships for young people interested in a transportation career.

I would suggest a general college education, rather than a purely business course. I have found that the man with a broad background and wide interests is generally best fitted for all aspects of life including business. If it is financially practicable, I feel that a young man would be wise to take a four-year general course and go on to a graduate school of business where he could specialize in transportation. Or he can go to one of the many colleges which offer a general educational course for two years and a business administration course for the last two.

A boy who can't get the money for full-time college can go to school after work. Most of the larger universities give night courses in traffic management. In many big cities he can also attend traffic institutes, sponsored by the transportation organizations, and study under traffic management "pros." Through such means, he can obtain the technical knowledge necessary to pass the I. C. C. examination and the examination for membership in the American Society of Traffic and Transportation, which will allow him to use the coveted designation following his name, "Member, A.S.T. & T."

One more point has to be made before I finish. Industry is not the only field for a traffic manager. He might be employed by a chamber of commerce or a board of trade. He might even have his own firm. In these capacities he would act as a consultant to both industry and carriers on transportation problems. If he prefers, he may move over from the buying side of transportation to the selling side in the "sales" or traffic department of a carrier organization, although the transfer usually works the other way.

All of these fields are admirable professions. No matter which a young man enters, he can be sure of an interesting, stimulating career—and the reward of knowing that he is helping to give his country the finest transportation system in the world.

Booklets available on other careers

This article on a Career as a Traffic Manager is one of a continuing series on career opportunities for young men and women. Each is available in booklet form and will be sent to you on request. You'll also find additional help in our free booklet, "The Cost of Four Years at College." Check the booklets you want below, and mail the coupon today!

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- ☐ Medical Technologist
- ☐ Traffic Manager

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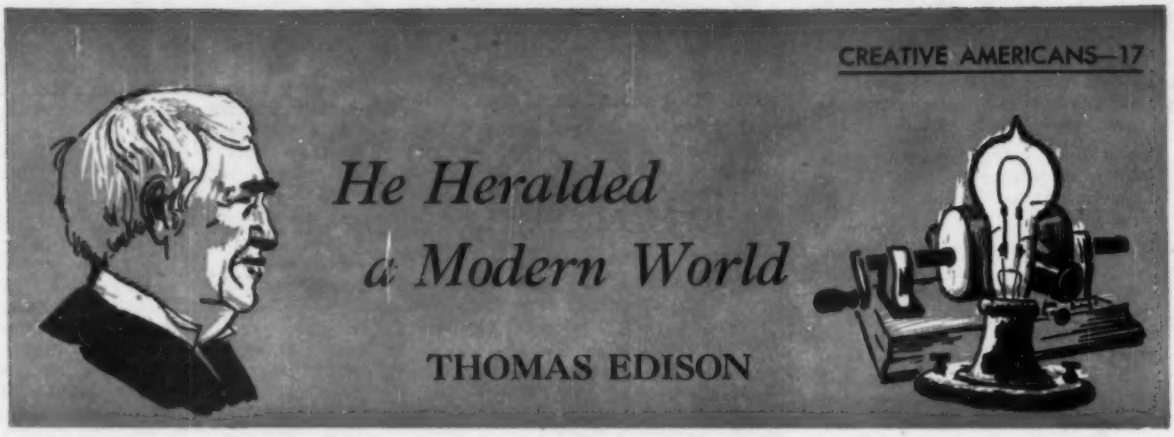


TODAY you walk into a room, flick a switch for light, turn on a TV, radio or phonograph for news or music, pick up the phone to call a friend, go to a movie, and take all these comforts for granted. Seventy-five years ago you could have done none of these things.

During the golden, productive years which bridged the gap between the nineteenth and the twentieth centuries, one American more than any other was the towering inventive genius of his time. Look about you, and almost everywhere you will see evidence of the work of Thomas Edison.

We read and live by the light Edison invented. We talk over the telephone through the transmitter he developed. The motion picture was another of his inventions. His genius gave us the phonograph. During his lifetime, Edison was granted more than 1,200 patents. Yet he scoffed at any talk of genius. "Genius," he once said, "is two per cent inspiration and 98 per cent perspiration."

Edison's long years of experimentation seemed to bear him out. For him, inventing was much more than sitting down and saying, "There ought to be some kind of talking machine." Instead, he first thoroughly studied the scientific principles which should make such a machine possible. Then he set to work applying these principles, and after much trial and error arrived at a working model.

Two Months of Formal Schooling

It is truly remarkable that Edison was able to attain such a grasp of scientific principles, for he had only about two months of formal schooling.

Edison was born in Milan, Ohio, on February 11, 1847, the son of poor parents. Schooling in those days consisted mainly of "readin', writin', and 'rithmetic." Young Thomas was a sickly child, and the first and only attempt to send him to school was a dismal failure. He asked impossible questions, refused to recite in class, and got the reputation of being a dunce. When his mother, who had once taught school herself, heard that the teacher had told a school inspector that young Tom was "addled," she took him out of school and taught him herself.

By the time Edison was eleven he was an "authority among the boys" on the Bible, Shakespeare, and American history. He could recite all the world's great inventors and their inventions. Edison's father had offered him a small sum of money for every book he could read and make his own. Edison started out to read every book in the small town library. His curiosity about science was insatiable.

More Than 1,200 Patents

When he was about 12 he got work as a newsboy on a train between Port Huron and Detroit, Michigan. He kept a few chemicals and chemistry books in a corner of the baggage car for spare-time study and experiments. But when a jar of phosphorous fell and broke, causing a fire, the train conductor grew so angry that he caught the boy and boxed his ears. From this unfortunate incident, Thomas Edison grew gradually more and more hard of hearing. Eventually he became almost totally deaf.

But his career as a train newsboy was followed by a more promising one when he rescued a station agent's little boy from the path of an oncoming train. The grateful agent offered to teach telegraphy to Edison, and thus furthered his interest in science and invention.

During the next few years Edison contributed many ideas to the improvement of telegraph apparatus. By the time he was 23 he had sold his inventions for more than $40,000.

In 1876, he opened his own laboratory, where he could devote all his time to inventing. His first laboratory and workshop were at Menlo Park, N.J. There he invented the incandescent light and many other important developments. He later moved to West Orange, N.J., where for the rest of his long life Edison continued to study, work, and experiment.

Edison obtained his first patent in 1868, when he was barely 21 years old. It was for an electrical vote recorder. By the time of his death in 1931, at the age of 84, he had been granted more than 1,200 patents, ranging all the way from an electric pen (which was eventually developed into the mimeograph) to a "kinetoscopic camera" (the forerunner of today's motion picture camera).

As proof that "genius is 98 per cent perspiration," it was ten years between Edison's first model of the talking machine—a simple cylinder covered with tinfoil and turned with a hand-crank—and a motor-driven machine with cylindrical wax records.

Worked from 7:30 a.m. to 11:30 p.m.

One of his most important discoveries—not widely heralded at the time, but draining much of his time, energy, and money—involved the so-called "Edison Effect," which he patented in 1883. This involved the passage of electricity from a filament to a plate of metal inside an incandescent lamp globe. Modern electronic tubes, such as those in radio and TV receivers, were made possible by Edison's studies and experiments.

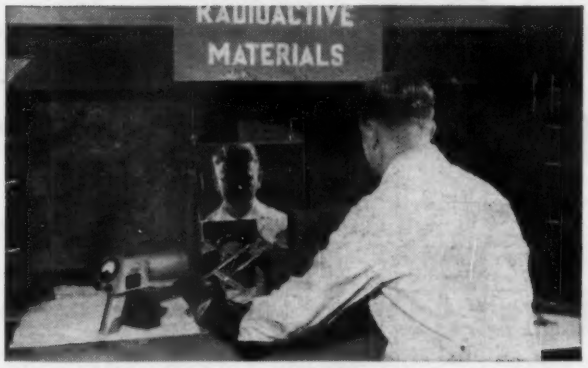
It would be impossible to list on this page all the creations of Edison. Even up to the time of his death, when he was an old man of 84, he was working on the production of synthetic rubber from goldenrod. During most of his working life he spent long hours in his laboratory, working from 7:30 in the morning to 11:30 at night, often later.

But he had the satisfaction of seeing most of his dreams realized—through study, hard work, and application.

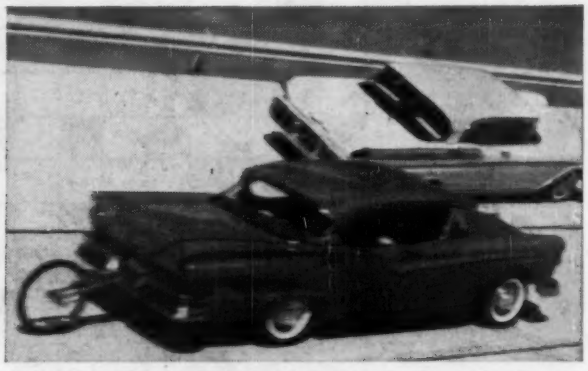
—LEONARD PARIS

YOU AND YOUR CAREER

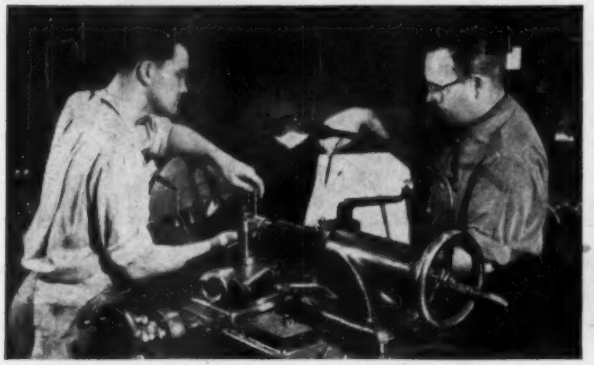
Choosing your career in the automotive field



RESEARCH: In the vast new facilities at Ford's Research and Engineering Center, skilled scientists work in areas of pure research as well as in fields directly related to automobiles.



ENGINEERING: Mechanical, electrical, ceramic, chemical and metallurgical engineers are in great demand. They are responsible for the styling, layout, installation and testing of all vehicle parts.



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SALES: All-out support for sales comes from Ford Motor Company's extensive advertising and promotion programs, thorough market research studies, and sales and service representatives who assist dealers in their individual sales efforts.

The automotive industry is constantly looking to colleges, universities and high schools for young men of ability and education. We've room to illustrate just a few of the career possibilities available. There are also challenging opportunities in purchasing, finance, quality control, industrial relations, public relations, market analysis, and accounting.

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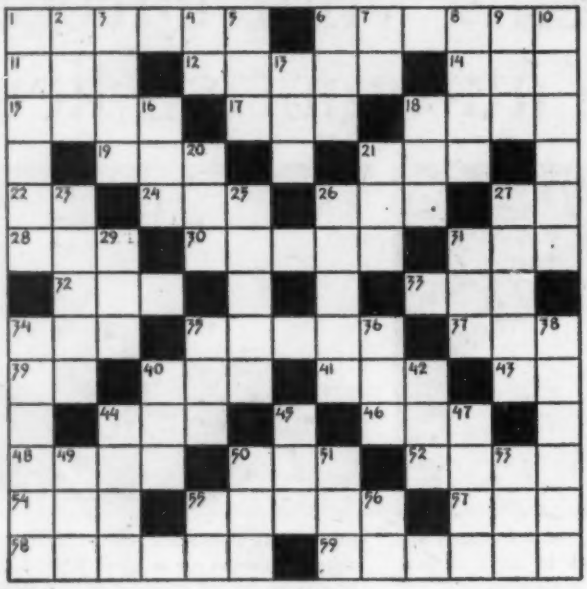
Headliners

By John Carstens, Payette High School, Payette, Idaho

★Starred words refer to famous men of past and present



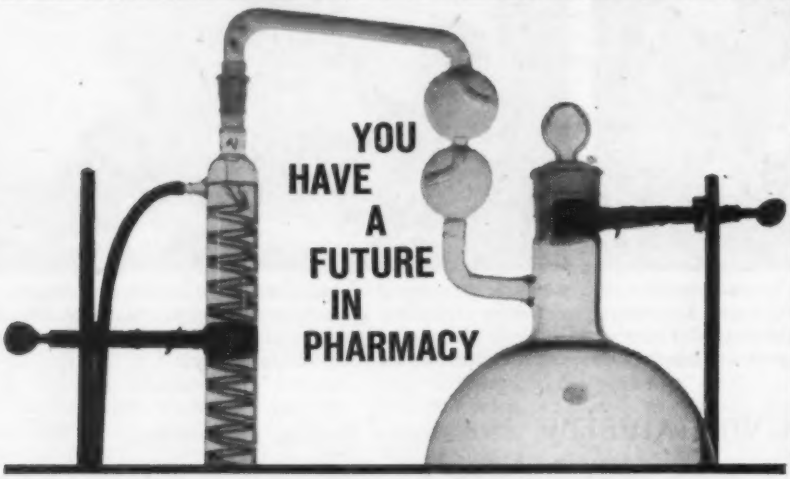
Students are invited to submit original crossword puzzles for publication in *Scholastic Magazines*. Each puzzle should be built around one subject, which may be drawn from History, Art, Science, or any other field of knowledge. Maximum about 50 words, of which at least 10 must be related to the theme. For each puzzle published we will pay $10. Entries must include puzzle design, definitions, answers on separate sheets, design with answers filled in, and statement by student that the puzzle is original and his own work. Keep a copy as puzzles cannot be returned. Give name, address, school, and grade. Address Puzzle Editor, Scholastic Magazines, 33 West 42nd Street, New York 36, N. Y. Answers to this week's puzzle in next issue.

ACROSS

* 1. Roman general and statesman.
* 6. Spanish explorer who discovered the Pacific Ocean.
11. Office of Civilian Defense (*abbr.*).
*12. President of Confederate States.
14. Make a mistake.
*15. Inventor of safety-brake elevator.
17. Magazine (*abbr.*).
18. Homonym for *scene*.
19. Children's game.
21. Dorothy's nickname.
22. In printing, half an em.
24. Pork comes from this animal.
26. Help.
27. Bachelor of Laws (*abbr.*).
28. Record of production (*abbr.*).
*30. Brothers who collected fairy tales.
31. Small boy.
*32. Nursery rhyme hero, Little _____ Blue.
33. Strategic Air Command (*abbr.*).
34. Perceive by eye.
*35. British spy hanged during the Revolutionary War.
37. Snake which crushes its prey.
39. Charles Laughton's wife (*initials*).
40. Pacific Standard Time (*abbr.*).
41. Black substance used to repair roads.
43. Near (*abbr.*).
*44. Dutch-born, American editor.
46. Pointed end of anything.
48. Dismounted.
*50. New York Philharmonic's musical director, _____ Bernstein (*nickname*).
52. Place for bathing.
54. Color in American flag.
*55. American author who wrote "The Devil and Daniel Webster."
57. Nineteenth letter of Greek alphabet.
*58. Spanish explorer who discovered the Mississippi River.
*59. Real or legendary British king.

DOWN

* 1. American author who wrote *The Pathfinder*.
2. Perform.
3. Prepare for publication.
4. Advertisement (*abbr.*).
5. Male sheep.
6. Large.
7. Arsenic (*chemical symbol*).
8. Reddish vegetable.
9. Rock containing metal.
*10. American Revolutionary General who committed treason.
*13. Eighth President of the U. S., Martin _____ Buren.
16. Juice of a tree.
18. Grass-covered soil.
20. Two-wheeled, one-horse carriage.
21. Opposite of *bright*.
*23. Swede who set up international awards.
*25. Victorious general of the Civil War.
26. Lifeless.
*27. English philosopher and essayist.
*29. He wrote "The Telltale Heart."
31. Scientists work in this (*abbr.*).
*34. American Secretary of State who persuaded the U. S. to buy Alaska.
35. Question.
36. Consume.
*38. Our twenty-first President.
40. Used for cooking.
42. Tease.
44. An auctioneer asks for these.
*45. Inventor of the lightning rod, _____ Franklin (*nickname*).
47. Footway.
49. Place protected from the wind.
50. Fifth sign of the Zodiac.
51. National Education Assn. (*abbr.*).
53. Same as number *57 Across*.
55. Bachelor of Theology (*abbr.*).
*56. The 26th President of the U. S. (*initials*).



Health is the pharmacist's business: Discovering, developing, manufacturing, compounding, dispensing the medicines that safeguard health and heal the sick.

Pharmacy training is a combination of scientific, business and academic education that fits the graduate for his place in the research teams of industry or government, in the management of major chemical corporations, on the staffs of scientific publications, in hospitals, in universities . . . and in his own community. In his job, the individual pharmacist may be a retailer, a writer, a professor, an executive, a government standards-setter, a salesman. It's all up to him. There are so many jobs in pharmacy—well-paying, satisfying jobs—that the graduate has his choice . . . **because the pharmacist is essential.**

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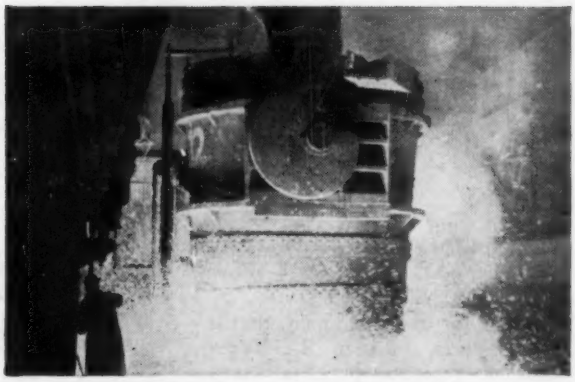
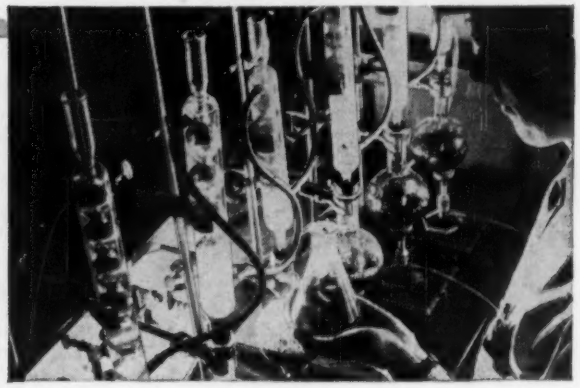
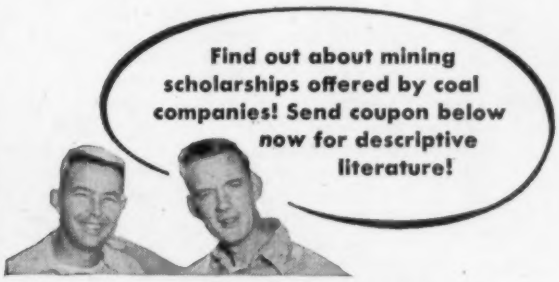


"Coal is a *must* in our economy! Without coal there would be no steel for cars, bridges, buildings. Coal turns limestone into cement, helps generate most of America's electricity. Coal affects every part of our daily living. As our nation keeps growing, so does the need for coal . . . and the men to produce it!"



"Engineers are needed all along the line in coal production. In research, for example, many current programs have openings. In the actual mining and preparing of coal—as well as many other phases of coal production—there are many opportunities for all kinds of young engineers plus technicians and specialists."



NATIONAL COAL ASSOCIATION

Southern Building, Washington 5, D.C.

Educational Division, National Coal Association — Dept. 5-7
Southern Building, Washington 5, D. C.

Gentlemen: Please send me more information on careers for young men in the coal industry.

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Boy dates Girl

By GAY HEAD

I hate men!
I can't abide them even now and then . . .

Except for my dreamboat, that is. But come to think of it, he's no pillar of perfection, either. As a matter of fact, I sometimes wonder how I've put up with him this long. Why, yesterday he . . .

Go ahead, girls, sound off—but then start ducking. Next week the boys get their turn at bat, so look out! They have some power hitters on their team.

Q. My boy friend asks me for a movie date every Saturday night. Movie dates are all right, but not every Saturday. It makes me feel as if he doesn't care much for me. How can I get him to do something different?

A. Poor Danny! He probably thinks he's being the perfect boy friend. You know where you'll be every Saturday, your parents know what time you'll get home, you always know what to wear, you see all the good flicks, and you don't have to worry about Danny's deciding he'd rather go bowling with his buddies. Lots of girls probably envy you like fury.

But look at Danny in ten or twenty years as the perfect husband. He'll be home every night between 5:42 and 5:44, depending on traffic; he'll bring his wife one pound of Sweet Sue milk chocolates (bridge assortment, $1.35 a lb.) on the 28th of every month (their anniversary); he'll take her out to dinner every Thursday to Keene's Kountry Kabin where he will order, every Thursday, one lamb chop, well done, with pudding (no ice cream, please) for dessert. Every year they will go to the same place on his vacation, have the same size Christmas tree, buy the same model car (black, four door sedan) and never ever consider doing anything another way. You see, Danny will marry a woman just like himself and they'll live a very peaceful life.

But Danny doesn't have to be like this, at least not at age seventeen. He'd probably like to do something different on Saturdays (just as he'll want to order Baked Alaska some night in twenty years), but he'd rather not take the chance on it turning out wrong. Movies and chocolate pudding are tested and extremely safe.

So, since you're no Mrs. Danny, why don't you take the chance for him? Suggest and root for going to Gene's party. Ask Danny and one other couple over to watch TV. Say you're dying to go bowling. Don't just say weakly, "Wouldn't you like to go bowling someday, Danny?" He'll probably say "Sure" and that will be the end of it. With much enthusiasm and good humor (no whining) say, "Please let's go bowling on Friday," and, unless Danny is head-and-shoulders opposed to the plan, don't take no for an answer. If you succeed, make that evening as much fun as possible for him. Then keep the ideas popping—or you may find yourself bowling every Friday night.

Q. My boy friend is always late, sometimes two or three hours. What can I do?

A. Curing someone of lateness depends pretty much on why he is late. Some people never leave quite enough traveling time. They figure it's fifteen minutes to drive from Inwood to Keverly, so leave the house at 7:15 for a 7:30 date. They're fifteen minutes late because they didn't count on the time taken up in unlocking the garage, warming up the engine, stopping for two red lights and Friday night shoppers, and taking one wrong turn.

Being two or three hours late, though, means that Stu can't be such a person. He's probably one of those who have absolutely no time sense and who refuse to plan on being anywhere at a definite hour. When someone does name a time, it means nothing to him. This will be a definite handicap for Stu in later years, so you'll be doing him a great favor if you help him get over it. Talk to him, friend to friend, and explain that this is not only inconsiderate but that it could have more serious consequences than a few ruffled feathers. (An employer, for example, wouldn't permit chronic tardiness.)

You may have to use rough tactics to make him see that people won't always wait for him to wander into view. Next time he says "I'll be over around one" say "Okay. If you aren't there by one-thirty, I'll know you aren't coming." If one-thirty arrives, and Stu hasn't, leave. Go anywhere, but just don't be there at one-thirty. Keep up this treatment, explaining to Stu exactly why you aren't around when he comes. He may be temporarily annoyed, but he'll know you're right. He'll learn why promptness is important.

The Ben Roth Agency
"I decided we're going skating instead!"

Q. My boy friend has been over every night since we started going steady in December. This is okay on vacations, but not on school nights. He'd be hurt if I said he couldn't come. What can I do?

A. Bring the subject up sometime when you're with him, not over the phone. Tell him your parents have told you to cut down your dating, or you're afraid your grades will suffer. Suggest a dating plan, such as Tuesday, Friday, and Saturday nights and Thursday and Sunday afternoons. This way you'll have plenty of time to get the "must's" done and just as much to see Al. If you make clear that this plan is no more fun for you than for him, but that it *has* to be, he'll cooperate.

Q. My boy friend teases me in front of other people. A little bit of teasing is all right, but not all the time.

A. There's teasing in fun and teasing to be cruel. Which is Pat guilty of?

Teasing in fun makes people laugh, including the person being teased. A clever tease is fun to have around if you have a sense of humor and are honest enough about your little faults to have someone point them out to the crowd. If you're ultra-serious or ultra-proud, you should stay away from good-natured teases.

If, however, Pat teases only because he knows it upsets you, then he's not the boy friend for you. He's probably jealous of you and thinks people will like you better than him unless he points out your faults. If this is the case, better find a boy who thinks more of you.

Of course, if you can tease back, you'll not only give Pat a little of his own medicine, but you won't feel so helpless when he starts his teasing. You may even have fun.

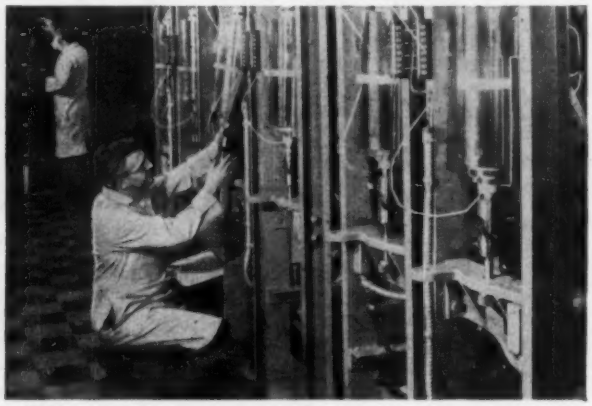
Industrial miracle: 7¾-cent steel

Most boys and girls would have no earthly use for an ingot of carbon or alloy steel. So you may not have the remotest idea of what steel costs.

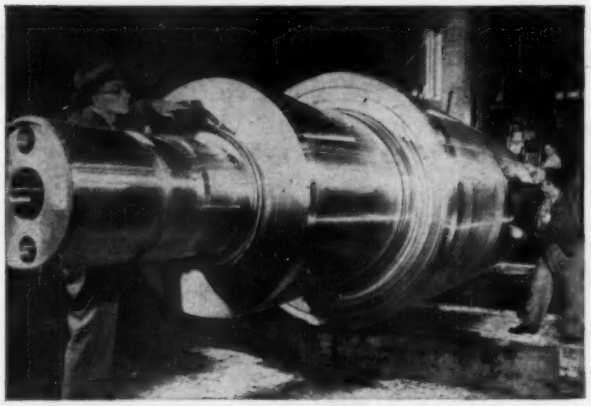
Actually, for all of these steels that it ships, United States Steel gets an average of 7¾ cents a pound. Less than a dime still buys a commodity whose manufacture requires billions of dollars' worth of equipment, the skills of hundreds of thousands of men and mountains of raw materials gathered from many parts of the world!

Steel in some form touches your life every day. Since it will be so important to your future, you'll be interested in what we are doing to keep steel the cheapest of all common metals.

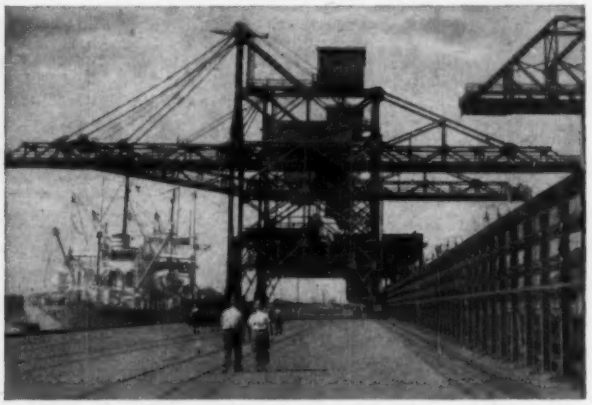
To hold costs and prices as low as possible through increased operating efficiency, U. S. Steel has spent 3½ billion dollars since 1945 to improve facilities. Modernization programs will soon raise its steel capacity by over 2 million ingot tons.



At U.S. Steel's research center we are making today's steel a better value and developing new steels. Here, researchers study new steel alloys for the high-temperature service required by steam turbines, jet engines and oil-refinery stills.



To make steel cheaper to use, U. S. Steel supplies hundreds of convenient forms. However, even in a product that is mostly steel, the cost of the steel is one of the smallest factors. An unusual order for steel was this huge plate mill roll.



The need for low-cost steel will grow. By 1975, the U. S. will need 50 million more tons of steel capacity. To help provide its share, U. S. Steel is developing new sources of raw materials to supplement old ones. Shown are ore boat unloaders.

Watch THE UNITED STATES STEEL HOUR on television. See your local newspaper for time and station.

USS

UNITED STATES STEEL

Sports

So You Want to Be a Coach!

ONE of the most popular questions popped at me every year is: "I'm crazy about sports and am thinking of becoming a physical ed teacher and coach. What do you think of the field and how can I prepare for it?"

Being an old phys ed man myself, maybe I'm prejudiced. But I think it's great! It offers a lot of fun and excitement and gives you a great chance to do a lot of good. Not only to build up thousands of students, but to help them with their personal problems.

It also pays better than ordinary teaching jobs, since you're expected to teach AND coach. But don't get me wrong. No one gets rich teaching or coaching. In many schools the pay is pretty poor. But money isn't always everything. You can get a lot of satisfaction out of doing work you enjoy, especially if it's such an important job as teaching.

What qualifications do you need? First of all, you don't have to be a great athlete to make a good physical ed teacher and coach. Just as important as athletic skills are (1) a thorough knowledge of sports, (2) ability and willingness to learn, and (3) good teaching aptitude.

By "good teaching aptitude," I mean poise, being able to stand up before large groups and give commands, being able to speak clearly and smoothly, and liking people and being able to understand and work with them.

Very few of you are qualified right now. But teaching ability comes with maturity and education. That brings us to Point No. 2—preparation. Though some individuals enter the field with no special preparation other than starring in college sports, the great majority have majored in physical education.

This makes sense. The job isn't just a matter of throwing out a ball or coaching a team. You must know how to handle large gym classes, how to set up programs, and how to teach a wide variety of games and sports.

The star athlete without special training may eventually learn to do the job. But it's doubtful whether he'll ever be able to do it as well as the fellow who has been specially trained for it.

That's why I recommend a course in physical education. Nearly every college now offers such a course, and I'd suggest writing away for catalogues. If you have any doubts, arrange a chat with your physical ed instructor. Ask him what he thinks of your chances in the field, and what colleges he would recommend.

Point No. 3: Go out for as many teams as you can, either as a player or a manager. You'll gain much valuable experience in skills and skill-teaching as well as in handling boys. Also attend as many games as possible. Read about sports. Talk to players and coaches. Learn all you can about the details of playing and coaching.

Point No. 4: Carefully observe your gym teacher. Notice how he gives commands and organizes classes. Nearly every coach must do a lot of work in the gym, and the more you know about handling gym classes the better.

What will be your chances of getting a job? Right now, the job situation is pretty good. With so many new schools going up and with the field of recreation (both public and industrial) growing by leaps and bounds, the job situation is promising.

But that's just the present. By the time you finish college, the situation may be different. Personally, however, I think it will be better—thanks to the growing interest in physical fitness.

High School Wonders

RECALL the saying, "You can't keep a good man down"? 'Tis probably true. But nowadays it's been changed to, "You can't keep a good *high schooler* down." The sports world is buzzing with young phenoms.

▸ Exhibits A and B are the Konrads kids—13-year-old Ilsa and 15-year-old Jon. Hardly more than dog paddlers when they moved from Latvia to Australia in 1949, Ilsa and Jon smashed *eight* world free-style swimming marks last month!

Jon splashed every mark from 200 meters to 880 yards, while Ilsa soaked the 800-meter and 880-yard records. The splash could be heard as far off as the 1960 Olympics.

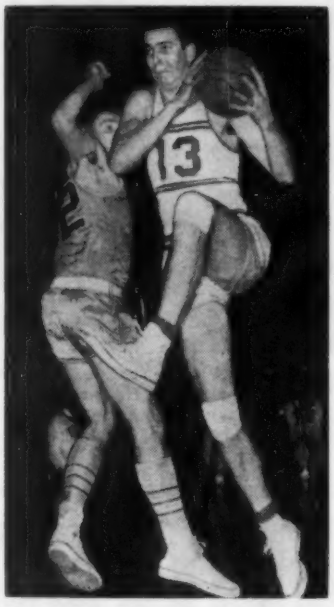
▸ Exhibit C is 11-year-old Edgar Petrini of Annapolis, Md. One of the greatest speed-boat pilots in the land, Edgar set a new world record in the junior utility class and became the national high-point winner in his class. That moved him right into the Gulf Marine Hall of Fame.

▸ Exhibit D is 14-year-old Bobby Fischer, of Erasmus Hall High School, New York City. A chess whiz since the age of 6, Bobby has, over the last seven months, copped (1) the national junior crown (for the second year in a row), (2) the National Open title, and (3) the U.S. National championship. *Your* move, dear!

▸ Exhibit E is Jan Loudermilk, 6-feet 6-inch hot shot from Big Spring (Tex.) H.S. In mid-January, he racked up 75 *points* against Ector H. S. of Odessa, Tex.!

▸ Exhibits F to Z *must* be 6-feet 10-inch Jerry Lucas of Middletown (Ohio) H. S. A two-time *Scholastic Magazines'* All-American, Jerry is rated as the greatest schoolboy cager of all time. He has led the Middletown Middies to two straight state crowns and (as I write this) 64 straight victories! What's more, he owns a *three-year scoring average of close to 33 points!* (More about him in a future issue.)

—HERMAN L. MASIN, *Sports Editor*



Going in for a floating lay-up is big Jerry Lucas, Middletown (Ohio) High's "schoolboy hoopster of the century."

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Enter as many times as you wish. Pick up extra entry blanks at your favorite drug counter, or write National Youth Scholarship Committee, 130 East 59th Street, New York 22, N. Y.

READ RULES CAREFULLY BEFORE ENTERING

1. In 50 words or less complete the following statement: "*A good education is important because . . .*" Use a plain sheet of paper with this Official Entry Blank.
2. Submit as many entries as you like to Johnson & Johnson Scholarship Contest, P. O. Box 77D, Mount Vernon 10, New York. *Nothing to buy—no box tops necessary.* Entries must be postmarked no later than May 5, 1958, and received by May 15. Entries must be original work of contestant.
3. Contest is open to any individual of any age in the United States and Canada, except employees and their families of Johnson & Johnson and its affiliated companies, and of Mutual Benefit Life Insurance Company and its agents, and their advertising agencies.
4. Only persons under age 20 years and 1 month (as of May 15, 1958) are eligible to receive the policies for education. A contestant over that age must designate a person below the age of 20 years and 1 month to receive the policy for education. In naming somebody else, name, address and age of both contestant and designee must be filled in on Official Entry Blank.
5. Contest subject to Federal and state laws. Entries will be judged by the Reuben H. Donnelley Corporation and an independent panel, on the basis of originality, sincerity and aptness of thought. Judges' decisions final. No entries returned. All entries become the property of Johnson & Johnson. Duplicate prizes in case of ties.
6. Awards of policies for education will be presented to the contestants or designee upon completion of the judging. Prize winners will be notified by mail. Policies will mature when the recipient reaches age 21. Policies may be cashed in earlier if they are needed at a younger age for educational purposes. Only one prize per family.
7. List of winners on request. Stamped self-addressed envelope required.

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Fill in and attach to your entry.
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Scholarship Contest, P. O. Box 77D
Mount Vernon 10, N. Y.

Your name_____

Your age, if scholarship is for you_____

Address_____

City & State_____

If scholarship is for someone else, fill in below also.

Name of Designee_____ Age_____

Address_____

City & State_____

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ADVICE ON
SKIN BLEMISHES
FROM

CLEARASIL PERSONALITY of the MONTH

PAT FERRER, *Graduate '57, Westhampton Beach High School, L. I., N. Y.*

Meet popular Patricia Ferrer and some of her lively friends. Pat took top honors in high school in home economics . . . she's a beauty contest winner, too. Pat loves music, dancing, swimming, dramatics. She works as a receptionist in a busy office. When you're meeting people as often as Pat, you simply can't let pimples keep you from looking your best . . .

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Pat Ferrer
East Moriches, Long Island, N. Y.

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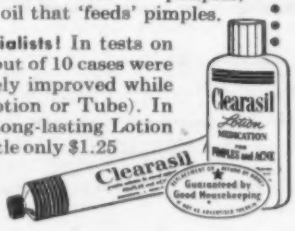

You, too, may have had skin problems and found Clearasil helped and them. When you think of the wonderful relief that effective treatment can bring, you may want to help others. You can, by writing us a letter about your experience with Clearasil. Attach a recent photograph of yourself (a good close-up snapshot will do). You may be the next CLEARASIL PERSONALITY of the MONTH. Write: Clearasil, Dept. AK, 180 Mamaroneck Ave., White Plains, N. Y.

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Looking and Listening

▸ We don't usually begin our reviews with a Thursday night show, but the *Playhouse 90* version of "Point of No Return," on CBS-TV, Thursday, Feb. 20, would seem to be important enough to break the rules. Charlton Heston and Hope Lange will star in this TV version of John P. Marquand's famous novel. Heston will play the banker who has to make a choice—ambition or self-respect. For better enjoyment of the show, why not read the book, too?

▸ Another big *DuPont Show of the Month* is coming your way on Friday, Feb. 21. The humorist S. J. Perelman has teamed up with none other than Cole Porter to produce a musical version of "Aladdin." Starring in this super CBS-TV show are Cyril Ritchard (as the Magician), Sal Mineo (as Aladdin), and Anna Maria Alberghetti (as the Princess).

▸ Saturday night, the popular *Perry Como Show* will have Miss Teresa Brewer as its special guest. This should be fun. Tune it in on NBC-TV.

▸ Another brand new show premieres on CBS-TV, Sunday, Feb. 23. Called *The Great Challenge*, the program will discuss important issues of our time. As its first offering *The Great Challenge* is gathering a panel of experts to talk about "Education for What?"—the crisis in our school systems. "Atomic Radiation" comes into the spotlight on CBS-TV's *The Twentieth Century*. Beautiful Rhonda Fleming, called the "girl with the most perfect features" by many Hollywood experts, will visit the *Dinah Shore Show* (NBC-TV). She'll be bringing along Alan King, a very funny comedian.

▸ Tuesday night, Feb. 25, has two unusual shows on the schedule. Boris Karloff returns to spooky roles, playing the spirit aboard "The Vestris," a haunted ship. This ghostly business is on *Telephone Time* (ABC-TV). That night, also, Lowell Thomas takes his *High Adventure* cameras to the mysterious land of Tibet. Watch him on CBS-TV.

▸ Andy Burnett continues his six-part adventures in ABC-TV's *Disneyland*, Wednesday, Feb. 26. Part four is titled "The Land of the Enemies," and features a lot of Indian activity, including bow and arrow lessons.

That's it for this week. Check your local papers for time and channel of each of these fine shows.

—DICK KLEINER

Words About Music

Popular

Teen Time (Verve). A full dish of pop tunes is in this album, with the accent on Ricky Nelson's *A Teenager's Romance* and *You're My One and Only Love*. With Ricky are Randy Sparks *(No, No, Napoleon)*, Jeff Allen *(That'll Be the Day)*, Rock Murphy *(Electric Guitar Boogie)*, and others.

Les and Larry Elgart and Their Orchestras (Columbia). This one is a natural for your next dance party. For the first time on record, the Elgart brothers team up, producing music that's easy on the ears and the feet. Catch *Bidin' My Time* and *Prelude to a Kiss* in particular.

The Everly Brothers (Cadence). Here in one package are the boys giving out with their hit singles *(Bye-Bye Love* and *Wake Up, Little Susie)* and a batch of new ones in their own distinctive style. Sure to be big hits are *Keep A-Knocking* and *Brand New Heartache*.

Doors of Dreams (RCA Victor). Joe Reisman is a triple-barreled musician: arranger-composer-conductor: On this album his fresh and original tunes are given warm treatments by his orchestra, featuring Tony Mattola on guitar and Urbie Green on trombone.

Classical

Horowitz Plays Chopin (RCA Victor). Vladimir Horowitz is one of the world's most sensitive classical pianists. In this session, Mr. Horowitz is particularly good in *Nocturne in C-Sharp Minor, Opus 27, No. 1* and the *Scherzo in C-Sharp Minor, Opus 39, No. 3*.

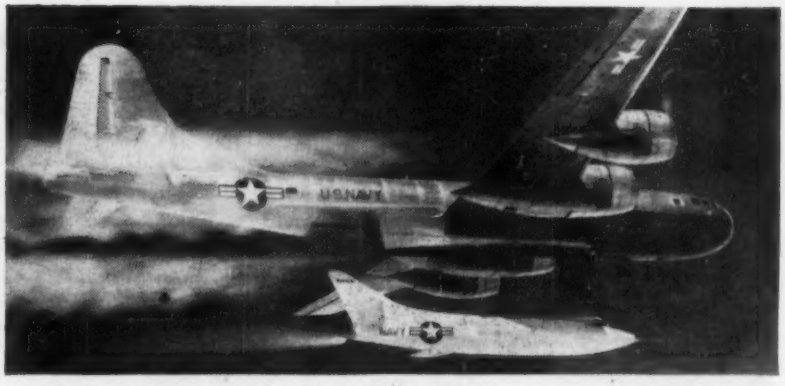
Jazz

South of the Mason-Dixon Line (Decca). Two-beat Dixie fans will really swing along with the Lawson-Haggart Jazz Band on this album. Soloists Lou Stein, "Cutty" Cutshall and Billy Butterfield shine on *Georgia On My Mind, Stars Fell on Alabama, Moon over Miami*, and other jamming favorites.

Religious

Bible Songs and Stories (Golden). Terry Gilkyson, with Mitch Miller and the chorus, offers 16 original songs based on the Old Testament. They all have rhythm, but a few will annoy the Bible scholar (the song about Joseph begins "Dreamer, dreamer, Daddy's little pet, etc."). An illustrated Golden Book comes with the record and makes fine reading for children.

—Art Stone



MY CLOSEST SHAVE *by Bill Bridgeman*
Douglas Test Pilot

"My closest shave was during the first try at a speed record in the fantastic Douglas Skyrocket," says Test Pilot Bill Bridgeman, author of *The Lonely Sky*. "A special B-29 dropped me like a bomb at 30,000 feet . . . I turned on my rockets and climbed to 40,000 . . . when suddenly all power failed. Rocket power, cabin pressure, heat—everything went—and the window frosted over so I couldn't see. *Finally* I got the radio going on an emergency battery . . . and a pilot in a chase plane talked me down to a blind landing!"

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Q. How can I become a make-up artist?—A. L., St. Louis, Mo.

A. Study at a local beauty school and get your state license to become a beauty operator. Get a job in a beauty parlor and also try to take lessons from, or become an understudy to, a make-up artist at a nearby television station.

Q. How can I become a game warden? —M. B., Gardiner, Me.

A. A game warden is a man who knows woods life and game; he usually is an experienced hunter and fisherman himself. Often, he also has a farm or a small business. Go to college and study forestry and biology.

Q. Do women doctors have many opportunities?—T. F., Washington, D. C.

A. Increasingly, women doctors are in brisk demand. A number of communities in Virginia have built small clinics and invited young women doctors to run them. The women doctors like this because they can marry, raise a family, and still operate their clinic which is often very near their home. Many small communities don't have any doctors and are eager to get one. The Virginia plan is very successful. Other women doctors specialize in women's and babies' diseases.

Q. There just isn't much recent information on a career as air hostess.— J. G., Albany, N. Y.

Q. I'd like to be an air hostess, but I'll only be 17 years old when I finish high school. What should I do until I'm old enough to go to a hostess school? —A. K., New Orleans, La.

A. Go to a finishing school, a college, or a good business school—all will be valuable for your chosen career. Read the chapter on "Air Transportation" in the 1957 *Occupational Outlook Handbook*, prepared by the Bureau of U. S. Labor Statistics.

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Campus Greens

(Continued from page 6)

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SEEKING GUIDANCE

Let your guidance counselor or principal help you to make your choice. He will consider your aptitude for school work, your past performance, your intests, your experience. Don't worry if you aren't sure of your eventual goal. Prepare to take the next step and keep as many doors open as long as possible. There will always be advisers along the way when crucial decisions must be made. Don't be afraid to ask.

Your choice of career may help you to decide whether or not to continue with foreign language, to choose plane geometry or business arithmetic, current problems or physics, biology or gas engines. In these choices you can best be guided by your parents or your school and not often by what your friends are selecting. In any case, do the best you can with the course you have chosen. Your future employer will be most interested in how well you did what you chose to do.

Win $10,000 Scholarship!

Like to write essays? A good 50-word one may win you a top prize of $10,000 to finance your college education!

Johnson & Johnson is offering a grand total of $75,000 in prizes for the best essays on "Why a Good Education Is Important."

Write National Youth Scholarship Committee, 130 East 59th Street, New York 22, N. Y. Contest ends May 5.

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ELGIN, ILL.—One of the most unusual colleges in the world is located in this community 36 miles west of Chicago.

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For further information, write The Registrar, Elgin Watchmakers College, 267 South Grove Avenue, Elgin, Ill.

Following the FILMS

✓✓✓✓Tops, don't miss. ✓✓✓Good. ✓✓Fair. ✓Save your money.

✓✓✓THE SEVEN HILLS OF ROME
(M-G-M. Produced by Lester Welch. Directed by Roy Rowland.)

Mario Lanza returns to the screen in a pleasant little musical about an American singer who follows his fiancée (Peggy Castle) to Italy and then discovers he really isn't in love with her after all. The plot doesn't make much sense, but the merry romping of Mario in Italy is entertaining. Renato Rascel and lovely Marisa Allasio keep things moving, while Mario sings grand opera and pop tunes and even imitates Perry Como, Frankie Laine, Dean Martin, and Louis Armstrong. The point of the film seems to be that tenors are generally in love with themselves. For Mario, this self-love becomes very difficult when Marisa decides he is her man. Generally, this movie provides sizable chunks of humor, color, and music, enough for anyone's taste.

—PHILIP T. HARTUNG

MOVIE CHECK LIST

✓✓✓✓Tops, don't miss. ✓✓✓Good. ✓✓Fair. ✓Save your money.

Drama—(D); Comedy—(C); Musical—(M); Documentary—(Y); Animated Cartoon—(A); Western—(W).

✓✓✓✓The Enemy Below (D); Bridge on the River Kwai (D); Old Yeller (D).

✓✓✓All Mine to Give (D); The Colditz Story (D); Sayonara (D); April Love (M); Zero Hour! (D); Bombers B-52 (D).

✓✓Rodan (D); The Monolith Monsters (D); Kiss Them for Me (C).

✓Johnny Trouble (D); Don't Go Near the Water (C); Jet Pilot (D).

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LAUGHS

Quantity or Quality?

A fisherman lugging a fish twice his size met another fisherman with a half-dozen small ones on a string.

"Howdy," said the first, dropping the huge fish and waiting for a comment.

His fellow fisherman just stared and stared and then said calmly, "Just caught the one, eh?"

Mrs. Jewel Collins, Coronet

Clothes Makes the Man

An elderly British couple were making their first visit to the United States. They arrived in the middle of a New York dock strike, when white collar office workers of one steamship company were at the pier to help passengers with their luggage.

The gray-haired gentleman from the United Kingdom nudged his wife as they walked down the gangplank. "You see," he told her, "in America even the porters are well-dressed."

Tit-Bits, London

Company K, Battalion 82

A woman trying to locate her boy friend in a distant Army camp called the long-distance operator for help.

"What outfit is he in?" asked the operator.

"In his fatigues, I should think," was the answer. "He's on K. P. duty."

E. E. Kenyon, American Weekly

Just Nerves

A kangaroo visited a psychiatrist. "What's wrong?" asked the psychiatrist.

"I don't know," replied the kangaroo. "I just don't feel jumpy any more."

Watertown Daily News

Inventor's Hideaway

One summer evening when Thomas A. Edison returned home from his work his wife said, "You've worked too long without a rest. You must take a vacation."

"But where will I go?" he asked.

"Decide where you'd rather be than anywhere else on earth and go there," was the answer.

"Very well," promised Mr. Edison. "I will go tomorrow."

The next morning he returned to his laboratory.

Christian Science Monitor

Scoreboard

Girl (arriving late at game): "What's the score, Bob?"

Bob: "Nothing to nothing."

Girl: "Oh, swell. I haven't missed a thing!"

Compact

Pentagon Commando

A young fellow in the Naval Reserve was telling his friends that if he were ever called for active duty, he would like to be assigned as commander of an LMD.

"What's an LMD?" asked a friend.

The young fellow quickly replied: "Why, it's a Long Mahogany Desk!"

Wall Street Journal

Wise Bird

The Turkish wit, Nasrettin Hodja, went by a pet shop and saw a parrot costing $100. It was a tiny bird and he was amazed at the price. Remembering the turkey at home, he brought it to the shop and offered it for sale.

"I only want $200 for it," he said.

"Are you mad?" shouted the merchant.

"Why," said Hodja, "if that small parrot costs $100, this turkey should be worth at least four times as much."

"But," the shopkeeper replied, "the parrot can talk. What can your bird do?"

"My bird is a philosopher," said Hodja. "He thinks."

The Wall Street Journal

TV-itis

The day before last year's eclipse of the moon, the teacher announced to his sixth-grade class that they should be sure to watch the total eclipse at 9 o'clock the following evening. He described it as one of the most wonderful shows that Nature would ever offer them and stressed the fact that it would be free for everyone to enjoy.

When he had finished, a world-weary 11-year-old asked, "What channel will it be on?"

Current

Answers to Last Week's Crossword Puzzle

■	D	O	V	E	R	■	S	A	L	E	M	■
F	■	N	O	T	■	M	■	D	I	G	■	O
L	A	■	W	■	T	I	E	■	E	■	E	G
I	C	Y	■	C	E	A	S	E	■	A	N	D
N	T	■	R	■	A	M	T	■	C	■	G	E
T	■	S	E	A	■	I	■	S	A	T	■	N
■	T	A	M	P	A	■	A	K	R	O	N	■
C	■	D	U	E	■	S	■	I	G	Y	■	A
A	T	■	S	■	L	E	E	■	O	■	E	L
I	O	U	■	B	O	I	S	E	■	C	O	T
R	T	■	I	■	T	N	T	■	N	■	N	O
O	■	E	L	M	■	E	■	S	O	D	■	N
■	R	I	L	E	Y	■	F	A	R	G	O	■

Man with a tough hair problem

Bill Flick of New Orleans captains a 45-foot cruiser for fishing parties. His hair takes a beating from sun, wind and spray.

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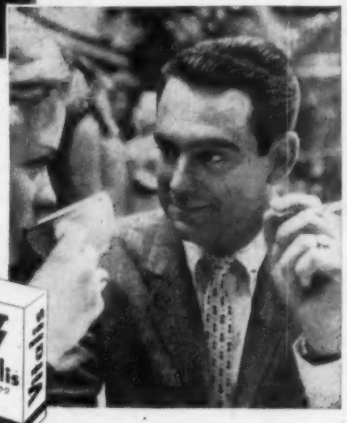

New greaseless way to keep your hair neat all day ... and prevent dryness

Whether your hair takes a beating from the great outdoors or morning showers, you, too, will like the way Vitalis keeps it in condition . . . prevents dryness. And you never have a greasy look because Vitalis grooms with greaseless V-7. Use Vitalis every day.

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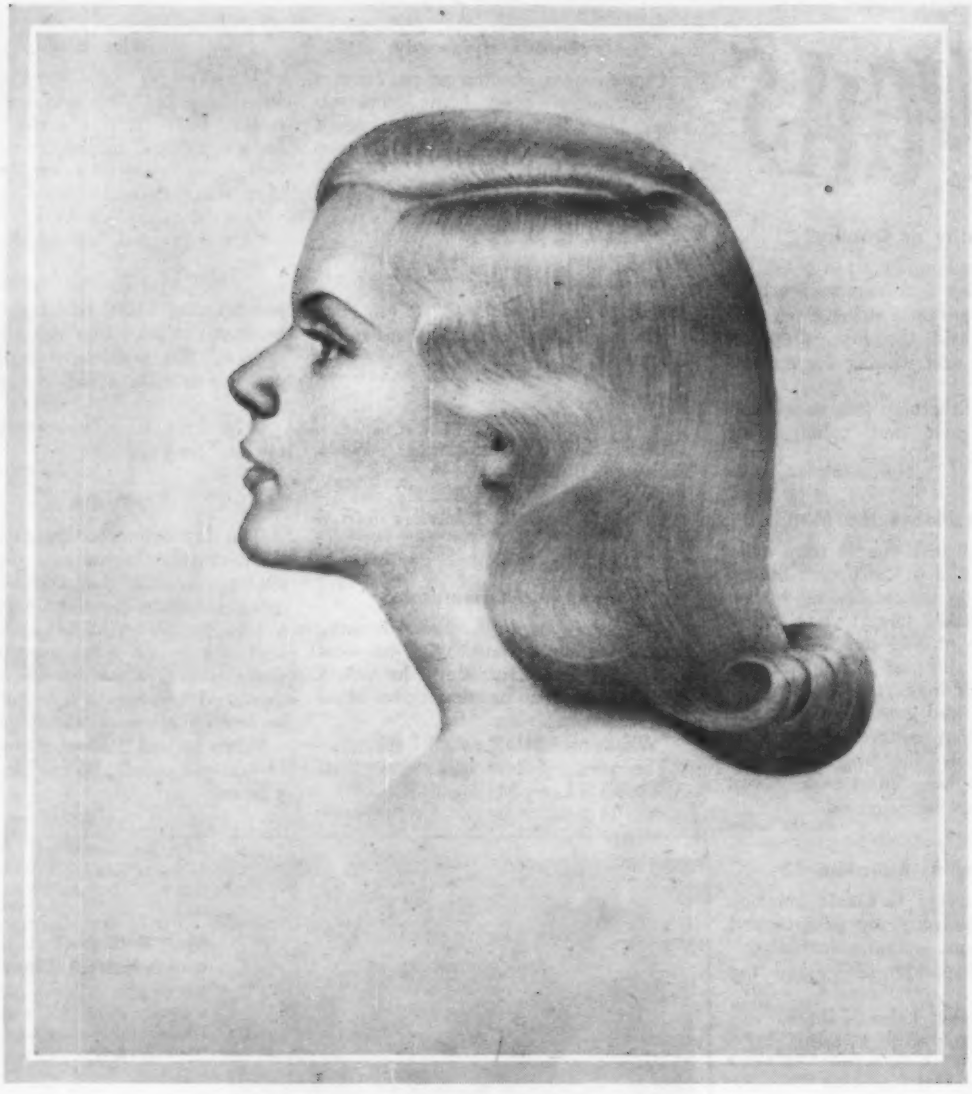

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The Outlook for Public Service Broadcasting

An Interview with Donald H. McGannon

By PATRICK D. HAZARD

YOUNG (38), energetic Donald H. McGannon has brought both idealism and flair to broadcasting statesmanship ever since he took over the presidency of the Westinghouse Broadcasting Company in 1955. The Westinghouse stations (five TV and six radio) put the company in the category of being called a substantial local station broadcaster.

This "multiple ownership" gives Westinghouse enough creative talent to make its policies and activities in the industry significant and precedent-making. Yet it also remains small enough to be quick on its feet and adaptable to new broadcasting conditions. That combination of resources and flexibility resulted in last year's remarkable Boston Conference on Local Public Service Programming. The three-day meeting of broadcasters, educators and critics electrified an industry jaded beyond belief by conventional conventioneering. The McGannon organization is again host to the best new ideas in their industry next month when the Baltimore Conference on Broadcasting convenes. Here are some of McGannon's positive ideas on the major issues facing the broadcaster today.

Q. The theme of your opening talk at the Boston Conference was that "public service, like good citizenship, is good business." Could you expand on this corporate philosophy?

A. I'd like very much to, because that concept is at the heart of our philosophy of broadcasting. Each station in a local market has a concrete image of character. Think, for example, how the names *Time*, *Life*, *Fortune* and *Confidential* bring different images to mind. The first three are positive ones, but even though they are published by the same corporation, they ring a different bell in the minds of potential readers. Then again there's the kind of bell that a *Confidential* rings. Well, we want to be sure that each of our stations has a specific public image or character, but a good one. We want it to be known as a vibrant and aggressive station, but also as one that is conscientious and responsible. We could realize a higher level of profit if we were willing to lose our positive image as a station interested in the total growth of the entire community. We feel that sound growth in the communities we serve is sound growth for our business.

Fabian Bachrach

Donald H. McGannon

Q. Why did Westinghouse stations turn to separate programming for their FM stations last year?

A. That's another example of how good citizenship and good business can be compatible. First of all, we didn't like the waste—FM stations were simply repeating what was already on the AM band. It bothered me to see a facility marking time. I'd like to see broadcasters making the most of everything at their disposal. Furthermore, there is a booming interest in hi-fi and good music. The people who have that kind of serious leisure interest have higher incomes and educations; they're the opinion leaders of their community. Those are good enough reasons for a businessman to want to make a special approach to them. So even if we only break even on the separate FM operation, we're building a new and important audience.

Q. Why did you take so much trouble to get valuable air time for your new TV series on mathematics with the Baird marionettes and the supervision of Teachers College, Columbia?

A. We spent 20 months planning a series and if we were to place it in a time period when a minimum number of sets are in use, it's like carting chickens in a Cadillac.

Q. Do you prefer that public service programming become self-sustaining?

A. Yes—with the exception of religious programs and government proceedings. Sponsored shows get a bigger audience partly because the third party protects its investment by aggressive promotion. I think perhaps educators have a stereotype about advertising that makes it hard for them to see my point; they base their image of advertising on the blatant hard sell. But I think they ought to realize that there are ingenious and attractive new forms of advertising that respect the intelligence of the viewer. Blanket rejection of advertising is bad because I feel advertising revenue is what makes our free enterprise system workable.

Q. What do you think of pay-TV?

A. WBC is against it. And not just because it could cook the goose that's laying our golden eggs, but a simple matter of economics. Pay-TV would destroy free TV, the greatest marketing agency we have at a time when it is needed most to stimulate retail sales.

Q. How do you figure pay-TV would kill free TV?

A. By outbidding it for talent. Take New York City, which has about four million TV sets. If "Gone With the Wind" played for a $1 fee and drew a quarter of the viewers, the pay-TV promoters would pick up $1,000,000 for an evening's work in one city!

Q. Don't the pay-TV people claim that they will bring cultural programs and other alternative programming not provided by free TV?

A. They say that, but I wonder just what they have in mind specifically. So far they're mostly talking about sports and new movies, which hardly add up to a renaissance. Let's be realistic: they're not going to break even by presenting ballet and Bach concerts: they're going to appeal to the mass audience just as commercial TV must. I've yet to hear what they're going to provide that isn't already provided, and I'm afraid they're not interested in public affairs programming. CBS last year lost $11,000,000 on its news operation, with 232 correspondents in 80 nations. Pay-TV could not do an effective job such as that, but would make that kind of investment impossible.

Q. What do you think of the future of educational television?

A. This is the dimension of TV that really excites my imagination. And it's the dimension we haven't even begun to explore yet. We know how well TV entertains, sells, and dispenses useful information, but we don't know the potential of TV as a teaching medium.

Fine Arts in Your Classroom

New Films on Music, Painting, Sculpture

THE LIVELY ARTS can be made even livelier for your classes this year—thanks to a wealth of brand new films and filmstrips on music, painting, and sculpture.

An unusual program for teaching music fundamentals will soon be offered to elementary schools free by the Thomas Organ Company. **Keys to Music** is a full year's keyboard instrument course. It consists of 15 motion picture lessons, review recordings of each film, teacher's manuals, and cardboard keyboards. Using the keyboard as the basic teaching device, the program gives large groups basic music education and instruction for playing a keyboard instrument.

Keys to Music was first applied in actual school situation last month in Philadelphia. By next fall the program is expected to be ready for schools all over the country. The entire course will be given to schools free of charge. For further information, write Lawrence R. Smith, Thomas Organ Company, 8345 Hayvenhurst, Sepulveda, California.

In the art field, a most interesting new filmstrip series is **History of Painting as Presented in the Metropolitan Museum of Art** (Herbert E. Budek Co.). This series, available either as filmstrips or as slide sets, will give a complete survey of Western art development from early Italian painters to the present.

How-To-Do-It Films

How-to-do-it music aids are rare. Young America offers two filmstrip series for elementary grades: **Musical Forest,** a delightful fantasy presenting the staff, notes, clef signs and our musical scale, teaching some note reading; and **Rhythm Magic,** to develop understanding of rhythm.

In the art field, Coronet has two 10-minute, color films for intermediate grades. **Let's Draw with Crayons** and **Let's Paint with Water Color.**

Young America offers two filmstrip series, one on technique, **Intermediate Art;** the other detailed and advanced instruction on **Jewelry and Silversmithing.** Also three film series: **Drawing for Beginners, Elements of Design** and **Let's Play with Clay.**

History and appreciation films in both music and the arts are wide and varied. One of the nicest of the new ones is **Rediscovered Harmonies** (22 mins., Film Images). Film traces development of wind, percussion and stringed instruments from seashell and bone to the 19th century.

Coronet's **Instruments of the Band and Orchestra** film series introduces instruments and sections to your students, familiarizing them with each group. Encyclopaedia Britannica's **The Children's Orchestra** (four films) introduces the families of instruments to middle grade pupils.

For upper levels, EBF's **Symphony Orchestra** series introduces the instrumental groups, demonstrates tone and range, and role of each in the orchestra.

For elementary grades, the award-winning color filmstrip series **Music Stories** (Jam Handy) with accompanying recordings provide an unusual and interesting way to introduce various composers and their works.

Contemporary has a new **Pablo Casals** (28 mins.) filmed at Casals' home in Prades, France. In this film, the great cellist plays the Bach Suite #1 for Unaccompanied Cello.

Films for Art Classes

The choice for art classes is wide and varied. Film Images has an excellent collection including broad surveys such as **Painting in America, French School of Painting, Gallery of Modern Sculptors, Flemish Painting** or studies of individuals such as **Grandma Moses, Georges Braque, Sculpture by Lipton,** and **Goya.**

Contemporary offers **The Titan—Story of Michelangelo** (67 mins., color); **Picasso** (50 mins., color); **The London of William Hogarth** (28 mins); and **Ink and Rice Paper** (16 mins.) which shows Lowell Naeve making a woodblock print. Brandon's library of art films includes such variety as **Ballet by Degas** (10 mins., color); **Creative Art of Japan** (20 mins., color); **Painting a True Fresco** (16 mins., color); **Pre-Columbian Mexican Arts** (20 mins., color.) Their newest, **Prehistoric Images** (14 mins., color), explores cave drawings.

Coronet has a number of films useful in both social studies and art history. Among their newest are **Boy of Renaissance Italy** (for middle grades) and **Leonardo Da Vinci and His Art.** EBF has new films on **Buma (African Sculpture Speaks), Painting with Sand, Rembrandt Van Rijn,** and **Making a Bronze Statue.**

The Univ. of California recently released **The World of Mosaic** (28 mins., color), a scholarly review of the art of mosaic in every major civilization. The Univ. of Southern California has also produced some outstanding art films—such as the *Scholastic Teacher* National Film Award winner, **Face of Lincoln.**

—VERA FALCONER

Sources: Brandon Films, 200 West 57 St., N. Y. C. 19; Contemporary Films, 13 East 37 St., N. Y. C. 16; Coronet Films, 65 E. South Water St., Chicago 1, Ill.; Encyclopaedia Britannica Films, Wilmette, Ill.; Film Images, 1860 Broadway, N. Y. C. 23; Jam Handy Organization, 2821 E. Grand Blvd., Detroit 11, Mich.; Herbert E. Budek Co., 324 Union Street, Hackensack, N. J.; Univ. of California, Educational Film Sales Dept., University Extension, Los Angeles 24, Calif.; Univ. of Southern California, Department of Cinema, University Park, Los Angeles 7, Calif.; Young America Films, 330 West 42 St., N. Y. C. 36.

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Teleguide *for*

Lowell Thomas in Tibet

FOR centuries the land of Tibet has intrigued the traveler, and for centuries its people have forbidden him entrance. On Feb. 25, from 8-9 p.m., however, you can join in a "High Adventure with Lowell Thomas" to that mysterious country, over CBS-TV, sponsored by United Motors System and Delco-Remy Divisions of General Motors. Even though there are few documents available about the country, you will be able to observe the land, the people and their unique way of life on your television screen. You will get a better picture of a country that has now slipped behind the Bamboo Curtain if you discuss beforehand what to look for in the films made by Lowell Thomas and his son on their visit in 1948.

BEFORE THE TELECAST

1. The people of Tibet are noted for their lack of contact with the outside world. Locate Tibet on the large map of Asia. Can you guess why Tibetans should have found isolation easy to maintain until mid-twentieth century? Why has the country been called the "Switzerland of Asia"?

2. What changes in our century have made Tibetan isolation more difficult to maintain? Who are the neighbors of Tibet? Which of these would you expect to be unfriendly? Check your hunches against a history of Tibet or China. (Lowell Thomas, Jr., gives some attention to Tibet's foreign contacts in the book he wrote after he and his father made the films you will see on TV. Read *Out of This World,* The Greystone Press, New York, 1950.)

3. Consult a geography or atlas for information about the weather and the elevation of Tibet. How would one dress for a trip there?

4. Learn these words before the telecast so that you may more fully understand and enjoy the program. Locate place names on a map of Tibet:

lama	yak
lamasery	Himalayas
Buddha	Nirvana
Lhasa	Brahmaputra

AFTER THE TELECAST

1. What evidence did you see on the program that transportation and communication in Tibet are different from ours? Why is transportation so slow in Tibet? Why was communication so sketchy at the time the film was made?

2. How do the houses and clothing of the Tibetans reflect their environment? Why are many groups of Tibetans nomadic? What is the importance of the yak in the Tibetan economy? What does the Tibetan eat? Why do foreigners find the food distasteful? How is the food suited to Tibetan living conditions?

3. How much did you observe of the government of Tibet on the telecast? How is order maintained? Why is it difficult to preserve public safety in Tibet? How do traveling Tibetans maintain their own safety? What traits of feudalism are observable in Tibet?

4. What is the Tibetan family structure? What is the position of the Tibetan woman? How is the attitude toward marriage different from ours? What do you know about the geography of Tibet that might explain these differences? Why are children highly valued in Tibet?

5. How do Tibetans greet strangers whom they wish to welcome? Have we any customs for these occasions that may seem strange to them?

6. Did you see any of the native arts of Tibet on the show? List as many as you can remember. For what reason do Tibetans make things of beauty? How many reasons can you give for American interest in the arts? Do you see any contrasts between American and Tibetan arts? Can you make any comparison between the Tibetan architecture of the Potala and American urban architecture? Does the Potala have any of the characteristics of Chinese architecture?

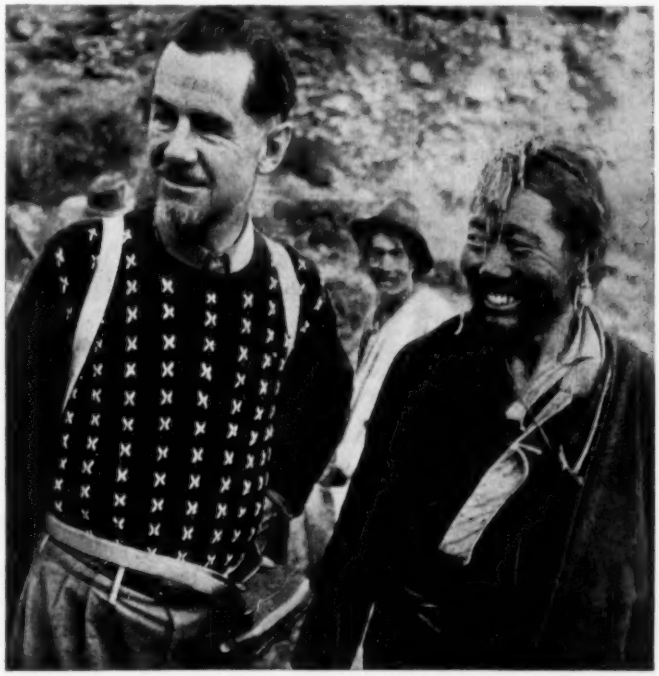
7. In how many different ways does religion enter the lives of Tibetans? Are there similarities between Buddhism and Christianity? What are the differences? Describe the lamaseries and their functions. What are prayer flags and prayer wheels? Have Christians any similar ways of praying? What is the Tibetan attitude toward death? How is the succession of the chief Lamas decided?

8. What are some of the legends popular in Tibet? Do you know of any legends, tall tales, or stories like these in American folklore?

9. What part does superstition play in the lives of Tibetans? In what ways does this seem harmful to Westerners?

10. Why haven't Tibetan gold reserves been developed? Why, up to 1950, had they not been developed by foreigners? Did you see any indication in the telecast that Tibetan lack of progress, in Western terms, results from lack of "want-to" rather than "know-how"? Why is this attitude so difficult for us to understand?

11. Summarize the differences between the Tibetan and the American types of civilization.—MARY E. HAZARD



Lowell Thomas and Yak herdsman.

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New Materials

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MILITARY GUIDANCE IN SECONDARY SCHOOLS and ARMY OCCUPATIONS AND YOU–Dept. of the Army publications for guidance purposes. Former is a sourcebook of ideas and suggestions for incorporating military guidance into school program. Also contains Selective Service regulations and list of Military Department guidance publications. Latter is complete guide to occupational opportunities in the Army. Free to teachers and guidance counselors from The Adjutant General, Dept. of the Army, Washington 25, D.C.

THE GAME CAREERS–Fun for everyone from junior high up. Before the game, each player selects a combination of wealth, happiness and fame as his goal. He tries to gain "experience" and make the most of his "opportunities"–just as in life–to attain this goal. Also emphasizes importance of education in working out the chosen formula. Retail price about $3.

COURSE OF STUDY AND HANDBOOK FOR HIGH SCHOOL JOURNALISM – Suggestions for teaching journalism in high school. Develops topics of: understanding mass communications, writing for school newspapers, organizing and producing publications. Also lists helpful texts, visual aids and periodicals. 44 pp. $1.25 from Indiana High School Press Assoc., Franklin College, Franklin, Ind.

Books

GETTING THE MOST OUT OF HIGH SCHOOL, by J. I. E. Scott. (Oceana Publications, New York, 1957, $2.50)

Offers suggestions to the high school student for getting along with teachers and fellow students, getting the most out of extracurricular activities, preparing for college. Contains list of occupations which do not require a college education and guides for selecting one.

GUIDE TO CAREER INFORMATION, by Career Information Service, New York Life Insurance Co. (Harper & Brothers, New York, 1957, $3)

Sourcebooks of information – their price, number of pages and where available–are listed for occupations from accounting through writing. Contains section on career guidance materials plus free New York Life Insurance careers materials.

LOVEJOY-JONES COLLEGE SCHOLARSHIP GUIDE, by Clarence E. Lovejoy and Theodore S. Jones. (Simon & Schuster, New York, 1957, $3.95 cloth, $1.95 paper)

Gives facts about thousands of scholarships, fellowships, grants-in-aid, loan funds, assistantships, contests and awards. Information on National Merit Scholarships, Scholarship Qualifying Test and aid offered by government and armed services.

HOW TO BE ACCEPTED BY THE COLLEGE OF YOUR CHOICE, by Benjamin Fine. (Channel Press, Great Neck, N. Y., 1957, $3.95 cloth, $1.95 paper)

How to select the college best suited to you; how much your high school grades and activities mean; college entrance exams; course requirements stressed by colleges; costs of college education; how and when to apply.

Films and Filmstrips

GUIDANCE: **Should I Go to College?**–29 mins., color or B&W. An interview with Dr. Harvey E. White, Professor of Physics, Univ. of California. Questions answered deal with many phases of the problem and were selected from questions sent Dr. White by high school students. (Sr. H.) Encyclopaedia Britannica Films, Wilmette, Ill.

Reach into Silence–13½ mins., color. Filmed at John Tracy Clinic, Los Angeles; methods used to train teachers for task of helping deaf children to speak. Follows typical student from time she decides to be such a teacher until she completes training. (Sr. H., Ad.) Free loan from Beltone Hearing Aid Co., 2900 West 36th St., Chicago, Ill.

The Human Cell and the Cytotechnologist–22½ mins., color. A newly developing scientific career in the increased use of cell study in cancer detection. Shows both normal cells and the growth of cancer. Training and requirements for cytotechnologist outlined. (Sr. H., Ad.) Careers in Medical Technology, 1785 Massachusetts Ave., N. W., Washington 6, D.C. For loan or purchase.

Working for the U.S.A.–14 mins. Nature and significance of Federal Civil Service employment; how positions are obtained, wage scales, advancement opportunities, other benefits; requirements for qualified clerical, technical and professional employees in various departments. (Sr. H., Ad.) Government Department, United World Films, 1445 Park Ave., New York 29.)

Travel Tips

FACTS ABOUT INDIA–Handbook, "India," has useful travel information and background of the land and its people. Also available, "Basis of Indian Culture" and "About India." All would be useful in the classroom as well as for travel planning. Free from Government of India Tourist Office, 19 East 49th St., New York 17, or 685 Market St., San Francisco 5, Cal.

TRAVEL, STUDY AND RESEARCH IN SWEDEN–Planning a visit to Sweden? This booklet will be of particular value to you. Covers where to study what, how to order food in restaurants, how to tip, where to see what, and lists organizations from which to get information about everything from angling to tennis. Write The American-Swedish News Exchange, Inc., 630 Fifth Ave., New York 20, N. Y. Paperbacked 243-page book is $2 per copy.

At Our Corner

SCHOLASTIC

33 West 42nd Street,
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33 West 42nd Street, New York. . . . Our readers see that address line often—on our letters, magazine mastheads, order cards. But what is it? A street and a number. Let's look inside—and see what you'd find if you dropped by for a visit at *Scholastic*.

You step off the elevator at the second floor. To the right, there's a pair of swinging glass doors. The inscription: *Scholastic Magazines*—Teen Age Book Club. And inside? At first glance it's a maze—honeycombed with offices, corridors, partitions. You find people poring over books and news clippings . . . artists at drawing boards . . . the chatter of typewriters. Everywhere, editorial activity is humming.

To learn what it's all about, let's make some visits—following a typical issue of one *Scholastic* magazine from first "rough copy" to the printer's proofs.

We begin with the editor, who oversees the whole job from start to finish. We'll probably find him (or her) surrounded by heaps of manuscripts, newspapers, books—intently penciling notes on a typewritten page. (The subject of editors' desks would make quite a story in itself!) Our editor has just met with his assistants to check final assignments. News, stories, sports, and recreation—the "roughs" arrive on his desk for editing. Cuts are made, revisions suggested; photos and art requirements are studied.

Next we follow the "copy" into the art department. Here designers and illustrators, working with the editors, complete each page as a visual unit. They select type styles, arrange pictures, choose color.

And finally, production. The people here check stories for length and go over the layouts to make sure everything fits. But most of their work isn't seen. They act as our liaison with the typographers, engravers, printers – in touch with all that takes place until the magazines are ready for the mail sacks. (These go directly into mail cars at the printing plant.)

Then? The cycle has already started again, to meet deadlines for next week's issue. On it goes, through the school year. And behind it, what we haven't had time to look into—a constant job of research and evaluation—planning of new materials—learning new and better ways to meet the ever changing, expanding needs of teachers in their classroom work today.

—THE EDITORS

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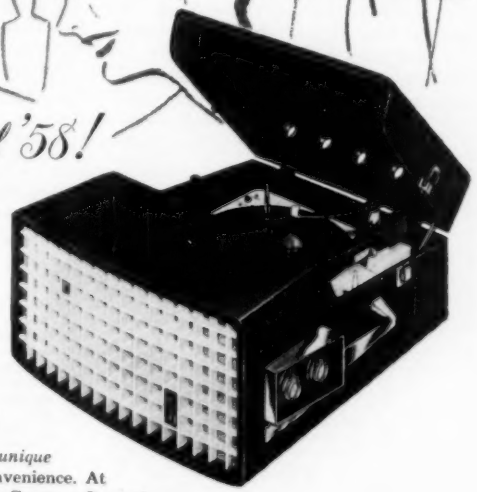

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The Alabama State Department of Education

By AUSTIN R. MEADOWS
State Superintendent of Education, Alabama

Courtesy School Executive
Austin R. Meadows

THE STATE of Alabama spends over $90,000,000 a year on its public schools, exclusive of local and Federal funds. This great sum is allocated by the Alabama State Department of Education to 67 county and 46 city school systems under policies approved by the State Board of Education. It is distributed to the local communities by an equalization formula that puts a minimum floor under every school system. It takes into account teacher units, teachers' salaries, school transportation, other current expense, capital outlay, and debt service.

To insure fair equalization, the Department calculates an economic index which measures the financial ability of each community to meet its minimum school costs. This index is based on such factors as sales taxes paid, passenger automobile licenses, state personal income taxes, assessed valuation of public utilities, farm income, and value added by manufacturers. Alabama was one of the first states to use an economic index as a measure of local ability to support good schools.

The State Superintendent of Education has authority to approve or disapprove local school budgets. To assure that budgeted expenditures do not exceed estimated income, the State Department checks the school budgets of every city and county system. The issuance of school warrants or bonds must also be approved by the State Superintendent. Whenever a community applies for long-term indebtedness for school construction or the purchase of school buses, the Department must review its application to make sure that it meets the legal requirements of the State. These careful policies have resulted in an enviable record for financial solvency among the State's schools. No Alabama school board has defaulted on any school bond issue since this service was started by the Department in 1935.

Another important goal of the Department is to develop 10-year plans for efficiency and economy in local school systems. For this purpose the Department makes comprehensive educational surveys throughout the State, covering school transportation, consolidation, finance, and teacher employment.

All plans and specifications for new school buildings must be approved by the State Department, to insure the safety and health of children, as well as efficiency and economy in construction. In fact, no final payment can be made on any school building until it has been inspected and okayed by the State school architect.

Every teacher in Alabama's public schools, as well as private school teachers who teach children of compulsory school age, must be certified by the Department.

Accreditation of high schools is another function of the Department, which is recommended or withheld after surveys by the Secondary Division. To improve instruction throughout the State, the Department furnishes consultants to assist county and city supervisors and principals. It holds periodic conferences on important educational problems, and meets annually with principals and supervisors in their workshops.

The Department prepares recommended courses of study for elementary and secondary schools. High schools are not accredited unless they offer the required curriculum. Teachers and principals are encouraged to guide pupils to take electives that will help them meet their occupational, citizenship, and home needs.

State-owned textbooks are furnished in Alabama. Our surveys show the need for State-owned instructional material to eliminate slow progress of pupils in grades where the lack of progress was traced to the lack of textbooks.

Department consultants have stimulated teacher workshops for the improvement of science teaching, science fairs, and the participation of pupils in the search for science talent. Special emphasis has been placed on the improvement of the curriculum in health and physical education.

Vocational education is a major program in Alabama, and is supervised directly from the State Department. It includes agriculture, home economics, trade schools, industrial education, and practical nurse training. For these purposes the State spends approximately $6,000,000 a year.

The Department supervises the school lunch program throughout the State. It allocates all Federal funds and surplus commodities for the school lunch program, with an annual expenditure of $17,500,000. Since 1951 also, Alabama has received over $20,000,000 in Federal funds for school construction and operation in defense-connected areas.

Most important of all, perhaps, the Department serves as a clearing house for furnishing information about education to parents, citizens, the State Legislature, and Federal Government.

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Listenables and Lookables

EDITED BY PATRICK AND MARY HAZARD

All times shown are current in Eastern Zone. Programs subject to change. Check local stations before assigning programs to students.

FOR YOUNGER VIEWERS

Wed., Feb. 19, 7:30 p.m. (NBC-TV) **Shirley Temple's Storybook**: "The Nightingale," on film. STORY: There once lived in China a nightingale whose songs were so magnificent that travelers came from afar to hear it. Although the bird was dearly prized by the people, the Court of the Emperor was not aware of it. When the Emperor heard about the bird, he was so thrilled, he kept it in a golden cage away from the common people. But when a fine Japanese lady brought a mechanical bird—which didn't have to be "requested" to sing—the real nightingale was turned back to the woods—and to the common people who loved it. Finally the toy bird broke down, and the Emperor, humbly learning the value of truth and freedom, had to ask the nightingale to come back.

Fri., Feb. 21, 7:30 p.m. (CBS-TV) **Du Pont Show of the Month**: Cole Porter's and S. J. Perelman's musical version of "Aladdin," starring Cyril Ritchard as the Magician, Anna Maria Alberghetti as Princess Ming Chou, Sal Mineo as Aladdin, Basil Rathbone as the Emperor, Dennis King as the astrologer and Howard Morris as Wu Fang, an apprentice pickpocket. The appearance of two fairy tales with Oriental backgrounds in one week's telecasting affords a natural opportunity for literature classes to consider the genre. Alvin Sapinsley's script for "The Nightingale" is witty without vulgarity, original without violating the spirit of the fairy tale, philosophic without heavy-handedness. S. J. Perelman's adaptation of "Aladdin" woos an adult audience with its sophisticated clichés, at the same time clinging to the original's appeal for children. The following questions are designed for comparative study.

The Nightingale: 1. How does the dialogue in this drama retain the flavor of a fairy tale? Are there any modern or western overtones in the dialogue? Do they spoil the feeling of "Once upon a time . . ."? 2. Why is the nightingale so important to the common people in the story? Why have the people of the court never noticed the bird before? Does the nightingale at first become important to the Emperor and his court for the same reason that the peasants love it? Why are the royalty interested in it at first? Why do the courtiers mistake other animals for the bird when they begin their search? How does the Chamberlain's mistake reflect his interests and character? How does the music master's error reflect his ideas and character? 3. Why do the courtiers become disappointed in the nightingale? Why does the Prince desert the Maid? Why will the nightingale respond only to the Maid? Why does the court find the artificial nightingale attractive? Which character is most like the grey nightingale? Which is most like the jeweled bird? What does each offer the Prince?

Aladdin: 1. Does the dialogue in "Aladdin" keep the spirit of the fairy tale? What are some of the modern allusions in the drama? Do these destroy the exotic setting of the story? Are they meant to do this? Why has S. J. Perelman used these anachronisms? What is the chief humorous element in "Aladdin"? In "The Nightingale"? Which type of humor do you prefer? 2. Have you met characters like the astrologer before? Does Perelman add anything new to this stock character? How successful is Cyril Ritchard's interpretation of the role? Do you recognize stock situations in "Aladdin"? 3. What is the tone of the musical? How would you describe Perelman's treatment of the original fairy tale? Which adaptation ("The Nightingale" or "Aladdin"), judged on its own merits, do you feel is the better drama? Why? Why does TV tend to seek out established talents like Perelman and Cole Porter—or classics like Shakespeare, for that matter—instead of encouraging fresh new talent?

Howard K. Smith will moderate new discussion program, *The Great Challenge*, Sunday, Feb. 23, 5 p.m. (CBS-TV).

MUSIC AND THE ARTS

Wed., Feb. 19, 9:00 p.m. (CBS-TV) **Victor Borge's Comedy in Music**: The "third half" of the zany Dane's entertainment will not be a solo flight. Marguerite Piazza and a 40-piece orchestra will help with the sound; Henry Morgan will add some of the nonsense.

Sun., Feb. 23, 3:30 p.m. (NBC-TV) **Look Here!** Martin Agronsky interviews industrial designer Raymond Loewy at his home in Palm Springs, Calif.

3:30 p.m. (NBC-TV) **Wisdom**: John Hall Wheelock, American poet and editor, converses with his friend Davidson Taylor, at his home on the Atlantic shore of Long Island. Wheelock recites and discusses his poetry.

PUBLIC AFFAIRS AND HISTORY

CBS News, heartened by the reception of its "Radio Beat" transatlantic interviews between Russian and American university educators, has created a special "Unit One" to prepare one-hour programs in-depth on such topics as juvenile delinquency, the new Hollywood, American behavior under fire in Korea, late developments in the Galindez-Murphy case, labor racketeering, and the narcotics traffic. Since it is unlikely that we will have sufficient notice of these shows to list them here, please ask your local CBS station to carry them and inform you of the time of broadcast.

Sat., Feb. 22, 10:30 p.m. (CBS) **Political Speech**: Former President Harry S. Truman's address on "Major Issues Facing the Nation in 1958" on both radio and television. (Except WCBS-TV, Feb. 23, 11:15 p.m.) Tape for class discussion and analysis of the rhetoric of political fund-raising dinners.

Sun., Feb. 23, 5:00 p.m. (CBS-TV) **The Great Challenge** (Premiere): Seven of the country's leading educational authorities will take part in "Education for What?," first in a unique discussion program. Participants: Clarence Faust, Fund for the Advancement of Education; Dr. Wallace Sterling, Stanford president; J. L. Morrill, Univ. of Minn. president; Rev. Theodore M. Hesburgh, C.S.C., Notre Dame president; Harold Gores, Newton, Mass. school superintendent; Harold Taylor, Sarah Lawrence president; Dr. Harrison Brown, Cal Tech scientist; and Max Lerner, author. CBS News correspondent Howard K. Smith will be moderator. These thoughtful leaders will consider what the central problems facing education today are in light of the Soviet threat, with special emphasis on the changes necessary to improve the quality and content of our education. The stocktaking will continue on successive weeks by examining these areas: Mar. 16: **Science.** Mar. 23: **Economics.** Apr. 20: **Human Relations.** Apr. 27: **Government and the Democratic Process.** May 18: **Foreign Relations.** May 25: **Ideology.** (What beliefs sustain all America?) An interesting approach to later programs would be to ask students to prepare term research reports on how responsibly the over-all schedule of TV serves enlightenment in these various fields. The point is that it takes more than a few solemn Sunday afternoon programs to measure up to a crisis. For example, the same week that CBS announced the forthcoming cancellation of **Let's Take a Trip** on Sunday afternoons, it premiered Mickey Spillane's **Mike Hammer** on Monday evenings.

DRAMA

Wed., Feb. 19, 9:00 p.m. (NBC-TV) **Kraft Theatre**: Milton Berle returns to TV in a straight dramatic role as a family man who is a material witness in a murder trial. He is intimidated and his family threatened in order to keep him from testifying.

Thurs., Feb. 20, 9:30 p.m. (CBS-TV) **Playhouse 90**: John P. Marquand's best-selling novel, "Point of No Return." Charlton Heston and Hope Lange star.

Mon., Feb. 24, 10:00 p.m. (CBS-TV) **Studio One in Hollywood**: Robert Dozier's "The Lonely Stage." An actress wins adulation during her career, but sacrifices human relationships along the way.

Thurs., Feb. 27, 8:30 p.m. (CBS-TV) **Climax**: A drama based on newspaper clippings about the life and death of underworld figure Albert Anastasia.

SCIENCE AND ADVENTURE

Sun., Feb. 23, 12 noon (CBS-TV) **Let's Take a Trip**: Behind the scenes at CBS master control. How television works, kinescopes, etc.

1:00 p.m. (NBC-TV) **Watch Mr. Wizard**: Science experiments.

6:00 p.m. (CBS-TV) **Twentieth Century**: "Enter with Caution: the Atomic Age."

6:05 p.m. (MBS) **Science News**: Earl Ubell, science editor of the New York Herald Tribune, interviews personalities in the field of science.

Tues., Feb. 25, 8:00 p.m. (CBS-TV) **High Adventure with Lowell Thomas**: See Teleguide on "Tibet," page 11-T.

National Radio and TV programs by representatives of religious faiths are listed once each semester.

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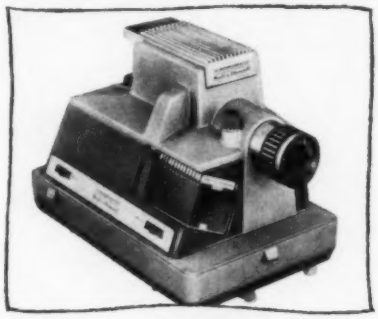
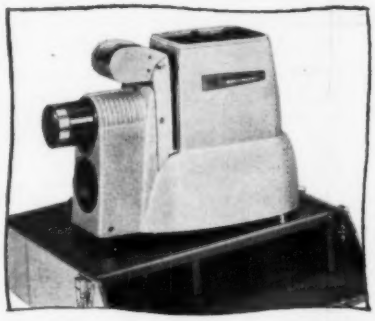
. . . crafted by Bell & Howell, the recognized leader in audio-visual equipment. Here are only samples of the broad line that includes: New Electric Eye Cameras . . . Time and Motion Cameras . . . Slide and Movie Projectors . . . high fidelity Tape Recorders . . . all with Bell & Howell's famed engineering quality. All are sold and serviced by the nation's most experienced A-V dealers.

Spool Load Electric Eye Camera —automatic exposure control. Lets everyone shoot expertly. **240EE.**



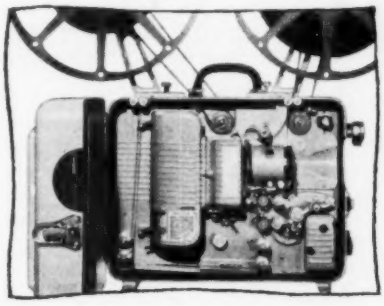
Automatic Slide Projector—Changes slides automatically or by remote control. Easiest to use. **Robomatic.**



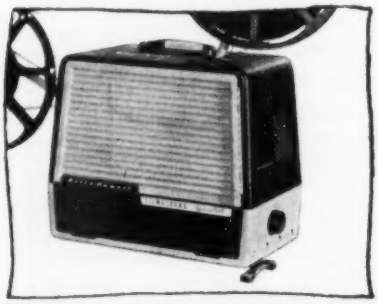
Brilliant Multipurpose Projector —shows both slides and filmstrips. 500 watt and 750 watt models. **724A.**

4-Speaker Tape Recorder—high fidelity for music appreciation. Unique sound system, simple operation. **300L.**

Deluxe Portable Tape Recorder—superior 2-speaker model, versatile and compact, newest control features. **775.**



Heavy Duty Sound Projector—meets all projection situations, conference rooms to auditoriums. 16mm. **614CB.**



World's most popular sound projector—theater quality pictures and sound, proven dependability. Magnetic recording model also available.**385CR.**

Ask your Bell & Howell A-V dealer for a demonstration of these and other products in the broad, quality line he carries. For full descriptions and prices, call him today, or write Bell & Howell, 7118 McCormick Road, Chicago, Illinois.

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FINER PRODUCTS THROUGH ***IMAGINATION***